V18893

JVC

SERVICE MANUAL

S-VHS VIDEO CASSETTE RECORDER

BR-S800E/BR-S500E

(S-VHS VIDEO CASSETTE RECORDER) (S-VHS VIDEO CASSETTE PLAYER)

BR-S800E

BR-S500E

S-VHS 625 VHS PAL Hi-Fi

SPECIFICATIONS

GENERAL

Format : VHS/S-VHS standard
Signal system : PAL-type colour signal/PAL-type Y/C signal
Recording & Playback mode : Recording:SP, Playback: SP (BR-S800E)
Playback: SP (BR-S500E)
Tape speed : 23.39 mm/s
Recording & Playback time : Recording: 180 min. /Playback: 180 min. (BR-S800E)
Playback: 180 min. (BR-S500E)
Fast forward/Rewind time : Less than 2.5 min. for 180 min. tape
Power requirement : 220 – 240 V AC, 50/60 Hz
Power consumption : 49 W (59 W when using RM-G800U) (BR-S800E)
44 W (54 W When using RM-G800U) (BR-S500E)
Dimensions : 430 (W) X 149.5 (H) X460 (D) mm
Weight : Approx. 11.5 kg
Operating temperature : 5°C to 40°C
Storage temperature : –20°C to 60°C
Humidity : 30 % to 80 %

VIDEO

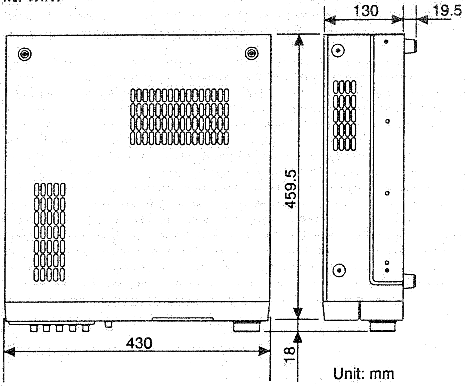
Composite IN : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced (BR-S800E)
Y/C IN : Y:1.0 Vp-p, 75 ohms, unbalanced (BR-S800E)
C:0.3 Vp-p, 75 ohms, unbalanced (Burst)
Composite OUT : 1.0 Vp-p, 75 ohms, unbalanced
Y/C OUT : Y:1.0 Vp-p, 75 ohms, unbalanced
C:0.3 Vp-p, 75 ohms, unbalanced (Burst)
External Ref : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Horizontal resolution : More than 400 lines (S-VHS)/240 lines (VHS)
Signal-to-noise ratio : More than 45 dB (S-VHS) / 45 dB (VHS)

AUDIO

Number of tracks : 4 (Hi-Fi X 2, Normal X 2)
Line IN : –6 dBs, 10 k-ohms, unbalanced (BR-S800E)
Mic IN : –67 dBs, 3 k-ohms, unbalanced (BR-S800E)
Line OUT : –6 dBs, 1 k-ohm, unbalanced
Phones OUT : – ∞ to –20 dBs, 8 ohms, unbalanced, stereo
Hi-Fi audio
 Frequency response : 20 to 20,000 Hz
 Dynamic range : More than 85 dB
 Wow & flutter : Less than 0.006% WRMS
Normal audio
 Frequency response : 50 to 10,000 Hz
 Signal-to-noise ratio : More than 40 dB (NR-off, at 3 % distortion)
 Wow & flutter : Less than 0.25% RMS (Normal)

ACCESSORY : Power Cord

DIMENSIONS
Unit: mm



Desing and specifixations subject to chhange notice.

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▒) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

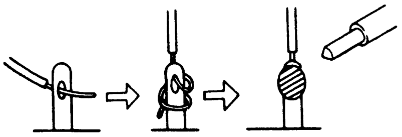


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosen it.

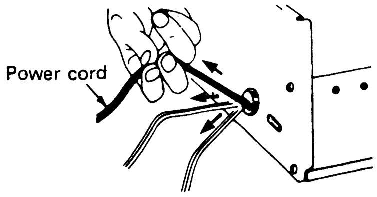


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

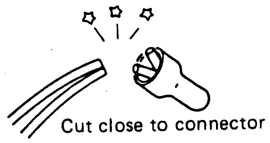


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

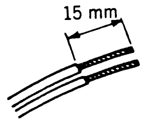


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

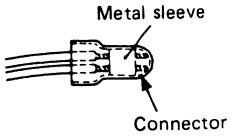


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

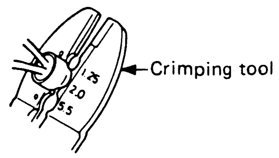


Fig. 6

(5) Check the four points noted in Fig. 7.

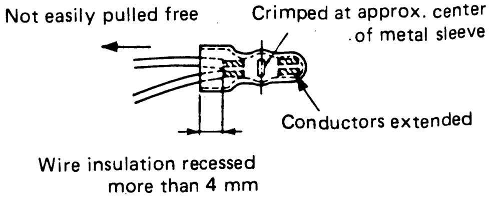

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

• Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

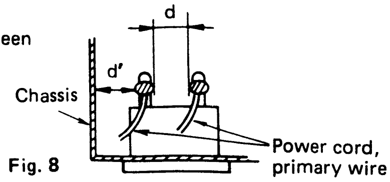


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

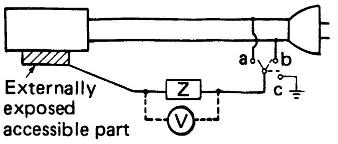


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

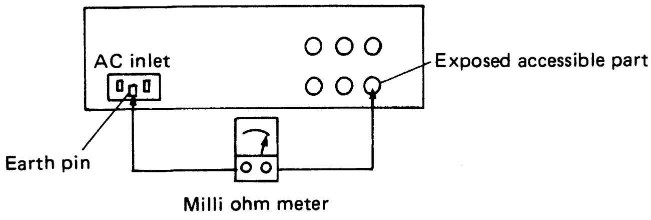


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 µF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

JVC

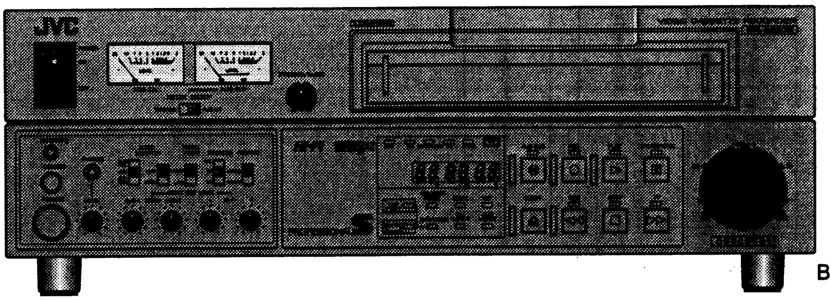
BR-S800E

VIDEO CASSETTE RECORDER

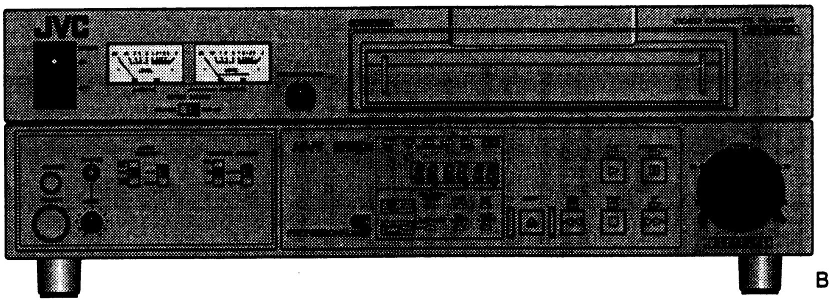
BR-S500E

VIDEO CASSETTE PLAYER

S-VHS 625 VHS PAL Hi-Fi



BR-S800E



BR-S500E

SL96002

SAFETY PRECAUTIONS

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V ∿)
WARNING – THIS APPARATUS
MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

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- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

POWER SYSTEM
Connection to the mains supply
This unit operates on voltage of 220 to 240 V AC, 50/60 Hz.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC, and IEC Publ.65.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:

The rating plate and the safety caution are on the rear of the unit.

WARNING

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical or artistic work embodied therein.

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1 INTRODUCTION

1-1 ABOUT THIS MANUAL

This manual introduces you to the BR-S800E S-VHS Recorder and the BR-S500E S-VHS Player. The BR-S500E is a playback-only VCR. It does not have the recording capability of the BR-S800E. Read this manual carefully before setting up and operating the BR-S800E/BR-S500E. This manual consists of the following sections.

Section 1 INTRODUCTION
This section describes the organisation of this manual and explains the main features and the precautions you should take when operating the BR-S800E/BR-S500E.

Section 2 CONTROLS, CONNECTORS, AND DISPLAYS
A basic description of all controls, connectors, and displays. If you are already familiar with professional editing techniques and know how to use a professional VCR, you will probably be able to start operating your VCR after you read this section.

Section 3 CONNECTIONS
This section describes how to connect the BR-S800E/BR-S500E to other units.

Section 4 MENU SWITCH SETTING
The BR-S800E/BR-S500E incorporate a "Menu Switch" function which lets you customise the VCR according to your requirements with a variety of settings on screen. Setting procedures and setting items are described in this section.

Section 5 LOADING/UNLOADING
This section describes how to load or unload video cassettes.

Section 6 PLAYBACK
This section describes preparations and settings for playback.

Section 7 RECORDING
This section describes preparations and settings for recording. This section can be omitted by BR-S500E users.

Section 8 EDITING WITH RM-G800U (option)
This section outlines editing procedures when using the BR-S800E/BR-S500E in combination with the optional editing controller RM-G800U. Refer to the RM-G800U's manual for details.

Section 9 CTL TIME CODE
This section discusses the principles of the CTL time code system and explains how to use it.

Section 10 IN CASE OF DIFFICULTY
This section suggests ways to respond to potential difficulties or malfunctions of your VCR.

Section 11 OPTIONAL ACCESSORIES
Optional boards and accessories are shown in this section.

Section 12 APPENDIX
This sections explains the terms which are used in this manual.

Section 13 SPECIFICATIONS
Specifications of the BR-S800E and BR-S500E are shown in this section.

Any description in this manual indicated as "BR-S800E only" refers to instructions applicable only to the BR-S800E. All VCR illustrations used in this manual are of the BR-S800E.

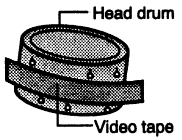
1-2 MAIN FEATURES

- The BR-S800E/BR-S500E offer the performance and functions required of professional VCRs.
- Rugged construction with DD (Direct Drive) motor and aluminum diecast chassis for professional use.
- A simple, low-cost editing system can be configured by combining the BR-S800E and BR-S500E with the optional RM-G800U editing controller.
- A built-in CTL time code generator/reader permits accurate editing is possible in combination with the RM-G800U. (CTL time code setting is only possible with the RM-G800U.)
- 4-Field sequence colour frame servo.
- Easy system upgradeability with a variety of optional boards.

1-3 PRECAUTIONS

VCR

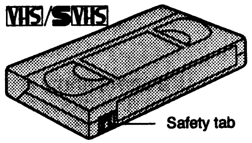
- DO NOT use the recorder in places subject to the following conditions:
  - extreme heat, cold, or humidity,
  - dust,
  - near appliances generating strong magnetic fields,
  - vibrations, or
  - poor ventilation.
- Be careful of moisture condensation.
  DO NOT use the recorder immediately after moving it from a cold place to a warm place. This will cause water vapor to condense on the still-cold video head drum and tape guides and may damage the tape and the recorder.
  If condensation occurs, the warning code "021" appears on the counter and the cassette is ejected. (☞p.51) The drum will start rotating to dry the head drums. Keep the VCR power on until the warning code turns off.



- Handle the recorder carefully.
  - DO NOT block the ventilation openings.
  - DO NOT place anything heavy on the recorder.
  - DO NOT place liquids on the top of the recorder.
  - DO NOT place a monitor, etc. on the recorder.
  - Use in horizontal (flat) position only.
- During transportation,
  - Avoid excessive shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.
- Proper maintenance such as cleaning dust, adding oil, or replacing parts are necessary to obtain optimum performance and a longer service life.
  We recommend you do maintenance on a regular basis (once every 500 hours). Total drum rotation hours can be checked via on-screen display. (☞p.17)

VIDEO CASSETTES

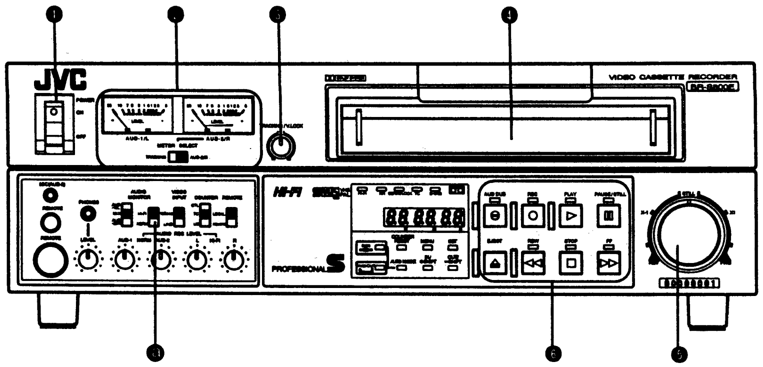
- This recorder uses S-VHS and VHS cassettes.
  S-VHS: SE-180 for 180 minutes SE-120 for 120 minutes, SE-90 for 90 minutes, SE-60 for 60 minutes, and SE-30 for 30 minutes.
  VHS: E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes, and E-30 for 30 minutes.
  An optional cassette adapter (SA-CP11U) is required when using C-size cassettes. Use SE-C30/C20 or E-C30/20 cassettes.
  Do not use tapes that are longer than the SE-260/E-260.
- DO NOT expose the cassettes to direct sunlight. Keep them away from heaters.
- DO NOT expose the cassettes to extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet), or excessive dust.
- Place the cassettes in cassette cases and position vertically.
- To prevent accidental erasure, remove the cassette's safety tab. To record on a cassette whose safety tab has been removed, cover the hole with adhesive tape.



WARNING:
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable program and in any literary, dramatic, musical, or artistic work embodied therein.

2-1 FRONT PANEL

Illustration shows BR-S800E



❶ POWER switch

POWER ON / OFF — Turns the power ON or OFF. When power is ON, the time counter and level meters will be illuminated.

❷ Level meter section

[AUD-1/L] Audio-1/L-ch level meter

AUD-1/L — Indicates the audio level of the normal audio-1 or Hi-Fi left-channel signal during recording and playback. Hi-Fi/Normal is selectable with the AUDIO MONITOR Hi-Fi/NORMAL switch ⓐ.

[AUD-2/R] Audio-2/R-ch level meter/tracking meter

AUD-2/R — Depending on the setting of the METER SELECT switch, this indication changes as shown below.

METER SELECT
TRACKING AUD-2/R

AUD-2/R: Indicates the audio level of the normal audio-2 or Hi-Fi right-channel signal during recording and playback.

TRACKING: Indicates video FM level as a tracking meter during playback.

❸ TRACKING control

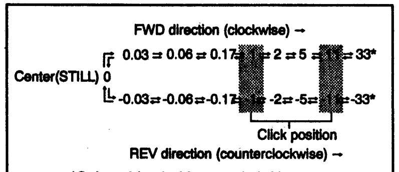
TRACKING/V.LOCK — Adjusts tracking. Turn in either direction during playback until the tracking meter deflects all the way to right. Functions as a V.Lock adjustment control in the Still mode and as a tracking adjustment control in slow-motion playback. (☞p.36)

❹ Cassette loading slot

For insertion and removal of the video cassettes.

❺ Search dial

Used for search while in the Play or Still mode. The dial stays in the last set position even if the mode is changed during search.
Tape speed varies as shown below depending on the position the dial is turned to. (*Step slow mode)
*Slow mode is selectable via Menu switch No. 337.



*Selectable via Menu switch No.340.

2-1 FRONT PANEL

❻ Operation buttons

⊖ **[AUD DUB] button** (BR-S800E only)

Used for audio dubbing on the normal audio-2 track*.

To start audio dubbing: Press PLAY while pressing this button in the Play or Still mode. Audio dubbing will start and the AUD DUB indicator will light.

To temporarily stop audio dubbing: Press PAUSE/STILL.

To re-start audio dubbing: Press PLAY.

*Selectable via Menu switch No.208.

○ **[REC] button** (BR-S800E only)

To start recording: Press PLAY while pressing this button in the Stop mode. Recording will start and the REC and PLAY indicators will light.

To temporarily stop recording: Press PAUSE/STILL. The PAUSE/STILL indicator will light and recording will be paused.

To re-start recording: Press PLAY.

E-E function: When this button is pressed during playback, the monitor screen switches from the playback picture to the E-E picture so that the input signal can be monitored.

▷ **[PLAY] button**

To start playback: Press in the Stop mode. Playback will start and the PLAY indicator will light.

To pause playback: Press PAUSE/STILL. The PAUSE/STILL indicator will light and a still picture will be produced.

To re-start playback: Press this button.

Reference pages

Audio dubbing	p.41
Recording	p.38
Playback	p.34

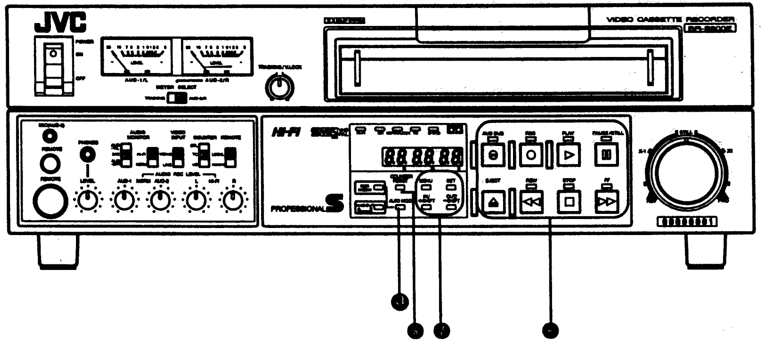
MENU SWITCHES

In addition to switches on the front panel, the BR-S800E/BR-S500E incorporate a comprehensive set of Menu switches for more flexible VCR setup.
For setting items related to the functions described on this page, the following Menu switches are available.

	Page reference
●Search	
No.204 HI-FI OUT AT SEARCH	30
No.301 DIRECT SEARCH	31
No.337 SLOW MODE	32
No.340 SEARCH SPEED	32
●Audio dubbing	
No.208 AUDIO DUB SELECT	29
No.339 A.DUB ENABLE AT LTC	32
●Recording	
Servo	
No.000 FRAME SERVO	28
No.003 SYNC SELECT	28
No.004 AUTO H. PHASE	30
Video	
No.100 S-VHS SELECT	28
No.101 EDIT SELECT	28
Audio	
No.200 HI-FI AUDIO REC	29
No.201 NORM. AUDIO DOLBY NR	29
No.202 AUDIO LIMITER	29
No.205 AUDIO-1 REC	29
No.206 AUD-2/LTC	30
No.207 AUDIO INPUT SELECT	30
No.339 A.DUB ENABLE AT LTC	32
System	
No.302 AUTO REC. PREROLL	31
No.304 RECORDING INHIBIT	31
No.305 REPEAT REC.	31
●Playback	
Servo	
No.000 FRAME SERVO	28
No.001 TBC CONNECT	30
No.003 SYNC SELECT	28
No.004 AUTO H. PHASE	30
Video	
No.101 EDIT SELECT	28
Audio	
No.201 NORM. AUDIO DOLBY NR	29
No.203 AUDIO OUT SELECT	30
No.206 AUD-2/LTC	30

2-1 FRONT PANEL

Illustration shows BR-S800E



❻ Operation buttons

[PAUSE/STILL] button

During recording: Press to temporarily stop recording. The PAUSE/STILL indicator will light.

During playback: Press to produce a still picture. The PAUSE/STILL indicator will light.

During Still: Press to advance the frame.

[EJECT] button

To eject a cassette: Press this button. The modes in which the cassette can be ejected are slectable via the Menu switch.

[REW] button

To rewind: Press this button. The REW indicator will light and the tape is rewound at 140X normal speed. Monitor screen switches to E-E picture during rewind. REW speed is selectable via the Menu switch.

[STOP] button

To stop the tape: Press this button. Tape stops and the STOP indicator lights. Monitor screen switches to E-E picture.

[FF] button

To fast forward: Press this button. The FF indicator will light and the tape is fast-forwarded at about 140X normal speed. Monitor screen switches to E-E picture during fast-forward. FF speed is selectable via the Menu switch.

MENU SWITCHES

In addition to switches on the front panel, the BR-S800E/BR-S500E incorporate a comprehensive set of Menu switches for more flexible VCR setup.
For setting items related to the functions described on this page, the following Menu switches are available.

Page reference

●**Eject**
No.300 DIRECT EJECT 31

●**REW/FF**
No.312 MODE AT TAPE END 31
No.319 TAPE MAX SPEED 31

2-1 FRONT PANEL

❼ Menu switch/Repeat play setting buttons

[MENU] button

To switch to Menu switch setting mode: Press this button.

To return to time counter: Press again.

To switch to Menu switch-2 setting mode: Press after setting Menu switch No.338 "MEMORY SW-2" to "OPEN".

To switch to hour meter display: Set Menu switch No.909. (☞p.17)

[SET] button

Sets data in Menu switch setting. Also used to set the repeat playback start or end point when pressed together with the IN/+SHIFT or OUT/–SHIFT button.

[IN/+SHIFT] button

During Menu switch setting: Press to advance Menu number.

In Repeat Playback mode: After Repeat Playback mode is engaged with the AUTO MODE button ❾, press SET together with this button to set the repeat playback start point.

[OUT/–SHIFT] button

During Menu switch setting: Press to reverse Menu number.

In Repeat Playback mode: After Repeat Playback mode is engaged with the AUTO MODE button ❾, press SET together with this button to set the repeat playback end point.

❽ COUNTER RESET button

To reset CTL time counter to "0:00:00": Press this button.

In Repeat Playback mode: Press this button to simultaneously reset playback start/end point. To reset the start point only, press this button while pressing IN/+SHIFT. To reset the out point only, press this button while pressing OUT/–SHIFT.

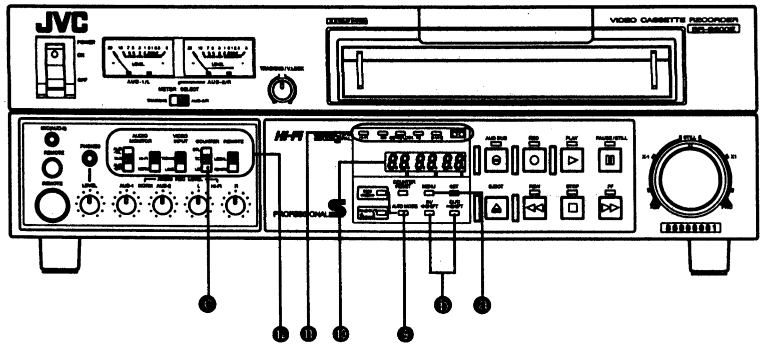
With timecode/user bit display: No effect.

Reference pages

Repeat playback	p.37
Menu switch setting	p.24
Hour meter display	p.17

2-1 FRONT PANEL

Illustration shows BR-S800E



⑨ AUTO MODE button with indicators
[AUTO MODE] button

Each time this button is pressed, the auto operation mode changes as follows:

Counter search: Tape will automatically stop at counter "0:00:00" position during rewind or fast-forward.

Repeat playback: Engages repeat playback operation after start/end points have been entered.

No indicator light: No auto operation is engaged.

Counter search indicator

Lights when Counter Search mode is activated with AUTO MODE.

Repeat indicator

Lights when Repeat Playback is activated with AUTO MODE.

⑩ Counter display

Usually displays tape time, time code, and user bits. When the MENU button ⓐ is pressed, display changes to Menu switch setting. Also displays the preset repeat playback start or end point when the IN/+SHIFT or OUT/–SHIFT button ⓑ is pressed.

Counter mode: With the COUNTER switch ⓒ, the counter display changes as follows:
CTL time counter
CTL time code data
CTL time code user bit data

When LTC/VITC board SA-R50E (optional) is installed: With the COUNTER switch ⓒ, the counter display changes as follows:
CTL time counter
LTC/VITC time code data
LTC/VITC time code user bit data

Available display of each counter mode:

CTL time counter ....–9:59:59 — 9:59:59
(hours, minutes, seconds)

CTL/LTC/VITC time code .....00:00:00 — 23:59:59
(hours, minutes, seconds)

LTC/VITC user bit ....00 00 00 — FF FF FF
(First 6 digits can be displayed)

CTL user bit ....00 00 — FF FF
(All 4 digits can be displayed.)

Reference pages
Counter search....................................p.37
Repeat playback p.37
Displays p.16

☞ p.56 GLOSSARY: CTL, Time code, User bits

2-1 FRONT PANEL

⑪ LED indicators

[HI-FI] indicator

Lights when recording Hi-Fi audio or when playing back a Hi-Fi-recorded tape. Also lights in the E-E mode when the Menu switch No.200 "Hi-Fi AUDIO REC." is set to "ON".

[NR] indicator

Lights when Dolby* NR is ON (via Menu switch No.201).

[SERVO LOCK] indicator

Lights when the capstan and drum servos are locked to the reference sync signal during playback and recording.

[TC] indicator

Lights when the Menu switch No.206 "LTC SELECT" is set to "LTC".

[S-VHS] indicator

Lights when an S-VHS tape is inserted. Also lights when recording in the S-VHS mode or when playing back an S-VHS-recorded tape.

Turns off when recording in the VHS mode or when playing back a VHS-recorded tape.

"Cassette loaded" indicator

Lights when a cassette is loaded.

MENU SWITCHES

In addition to switches on the front panel, the BR-S800E/BR-S500E incorporate a comprehensive set of Menu switches for more flexible VCR setup.
For setting items related to the functions described on this page, the following Menu switches are available.

Page reference

●Hi-Fi audio recording
No.200 Hi-Fi AUDIO REC. 29

●Dolby NR setting
No.201 NORM. AUDIO DOLBY NR ...29

●LTC
No.206 AUD-2/LTC 30

●VHS recording with S-VHS tape
No.100 S-VHS SELECT 28

⑫ Setting switches

[AUDIO MONITOR] select switches

Selects audio output for the PHONES jack and the AUDIO MONITOR OUT connector. Audio level meters will switch corresponding to the setting of the Hi-Fi/NORM switch.

Hi-Fi: To monitor the Hi-Fi audio signals. Audio level meters switch to Hi-Fi audio level meters.

NORM: To monitor the normal audio signals. Audio level meters switch to normal audio level meters

AUD-1/L: To monitor the normal audio-1 or Hi-Fi left-channel signal.

MIX: To monitor the AUD-1/L and AUD-2/R signals together. The stereo signal is output from the PHONES jack. Output of mixed normal audio and Hi-Fi audio signals is not possible.

AUD-2/R: To monitor the normal audio-2 or Hi-Fi right-channel signal.

[VIDEO INPUT] select switch (BR-S800E only)

Selects an input video signal.

LINE: To select the composite video signal input to the VIDEO IN LINE connector.

Y/C443: To select the separate Y/C signal input to the VIDEO IN Y/C443 connector.

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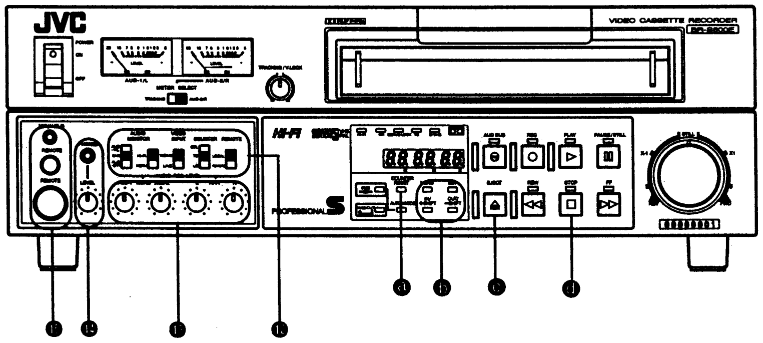
*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ▯▯ *are trademarks of Dolby Laboratories* Licensing Corporation.

☞ p.56 GLOSSARY: Dolby NR, LTC

2-1 FRONT PANEL

Illustration shows BR-S800E



⑫ Setting switches

[COUNTER] select switch

COUNTER CTL TC UB — Selects counter display mode.

CTL:	Tape time based on CTL signals is displayed in hours, minutes, and seconds. (–9:59:59 — 9:59:59)
TC:	When LTC/VITC board SA-R50E (optional) is not installed: CTL time code is displayed in hours, minutes, and seconds.
	When LTC/VITC board SA-R50E (optional) is installed: LTC or VITC time code is displayed in hours, minutes, and seconds.
UB:	When LTC/VITC board SA-R50E (optional) is not installed: CTL time code user bits (4-digit) are displayed.
	When LTC/VITC board SA-R50E (optional) is installed: LTC or VITC time code user bits (first 6 digits) are displayed.

[REMOTE] select switch

REMOTE LOCAL REMOTE — Selects between remote and local control of the VCR.

LOCAL:	For direct control with the VCR's function buttons. Remote control (optional) is not operative.
REMOTE:	For remote control via the optional remote control connected to the REMOTE connector.

When REMOTE is selected:
The COUNTER RESET button ⓐ, menu switch setting buttons ⓑ, the EJECT button ⓒ, and the STOP button ⓓ are still operative. All other switches and controls (except the COUNTER select switch and the search dial) become inoperative.

☞ p.56 GLOSSARY: CTL

2-1 FRONT PANEL

⑬ Audio recording level controls (BR-S800E only)
Adjusts recording levels separately for the Hi-Fi left/right-channel signals and the normal audio-1/2 signals.

⑭ Headphone jack with level control

[PHONES] jack
For headphone connection (M 3.5, stereo). The audio signal selected with AUDIO MONITOR can be monitored.

[LEVEL] control
Adjusts signal level output from the PHONES jack.

⑮ Microphone/Remote connectors

[MIC] jack (BR-S800E only)
For microphone connection (M 3.5, mono). Normal audio-2 signal switches from line to microphone.

[REMOTE] connector (RCA)
For serial remote connection. Connect a remote control RM-G30U (optional). Set the REMOTE switch to "REMOTE".

[REMOTE] connector (12-pin)
For editing control. Connect an editing controller RM-G800U (optional). Set the REMOTE switch to "REMOTE".

When both REMOTE connectors are connected to remote controls:
VCR can be controlled by either remote control (if the REMOTE switch is set to "REMOTE".)

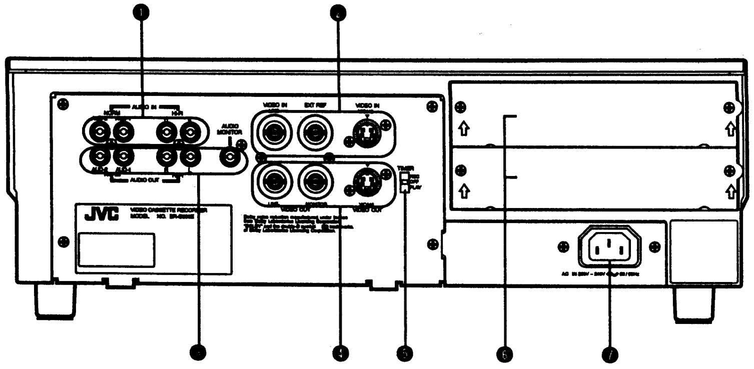
MENU SWITCHES

In addition to switches on the front panel, the BR-S800E/BR-S500E incorporate a comprehensive set of Menu switches for more flexible VCR setup.
For setting items related to the functions described on this page, the following Menu switches are available.

	Page reference
●Audio recording	
No.200 Hi-Fi AUDIO REC	29
No.201 NORM. AUDIO DOLBY NR	29
No.202 AUDIO LIMITER	29
No.205 AUD-1 REC	29
No.206 AUD-2/LTC	30
No.207 AUDIO INPUT SELECT	30
No.208 AUD DUB SELECT	29
●Audio playback	
No.203 AUDIO OUTPUT SELECT	30
No.204 Hi-Fi OUT AT SEARCH	30

2-2 REAR PANEL

Illustration shows BR-S800E



① Audio input connectors

[AUDIO IN NORMAL] connectors (RCA) (BR-S800E only)
Accepts audio signals for recording on the normal audio track.

[AUDIO IN HI-FI] connectors (RCA) (BR-S800E only)
Accepts audio signals for recording on the Hi-Fi audio track*.
(*Selectable via Menu switch.)

② Video input connectors

[VIDEO IN LINE] connector (BR-S800E only)
Accepts composite video signals.

[EXT REF] connector (BNC)
For reference sync signal input. Input the composite video or composite sync signal.

[VIDEO IN Y/C443] connector (4-pin) (BR-S800E only)
Accepts separate Y/C signals.

③ Audio output connectors

[AUDIO OUT NORMAL] connectors (RCA)
AUD-1 and AUD-2 normal audio signals are output.

[AUDIO OUT HI-FI] connectors (RCA)
Hi-Fi left/right-channel audio signals are output*.
(*Selectable via Menu switch.)

[AUDIO MONITOR] connector (RCA)
Outputs the audio signal selected with the front panel AUDIO MONITOR switch (☞p.11).

④ Video output connectors

[VIDEO OUT LINE/MONITOR] connectors (BNC)
Outputs composite video signals. On-screen information is supplied from the MONITOR connector.

[VIDEO OUT Y/C443] connector (4-pin)
Outputs separate Y/C signals.

2-2 REAR PANEL

⑤ TIMER switch
Selects timer mode when an external timer is connected.

REC (BR-S800E only): The VCR automatically starts recording when power is supplied from the timer.

OFF: No timer operation.

PLAY: The VCR automatically starts playback when power is supplied from the timer.

⑥ Expansion slots
A variety of optional boards can be installed here to increase the unit's capabilities.

⑦ AC IN socket
Connect to 220 – 240 V AC, 50/60 Hz power outlet using the provided power cord.

MENU SWITCHES

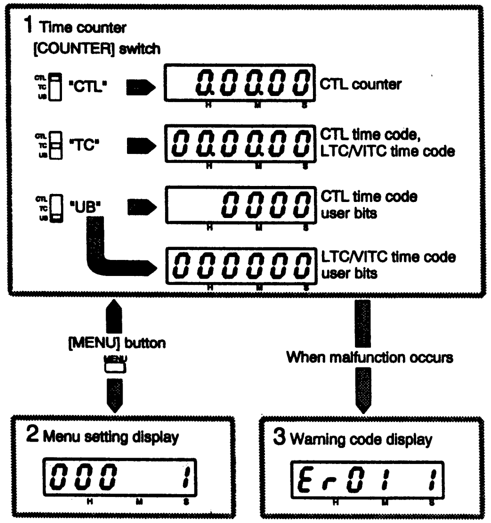
In addition to switches on the front panel, the BR-S800E/BR-S500E incorporate a comprehensive set of Menu switches for more flexible VCR setup.
For setting items related to the functions described on this page, the following Menu switches are available.

	Page reference
●Audio input	
No.205 AUD-1 REC.	29
No.206 AUD-2/LTC	30
No.207 AUDIO INPUT SELECT	30
No.208 AUD DUB SELECT	29
No.339 A.DUB ENABLE AT LTC	32
●Video input	
No.003 SYNC SELECT	28
●Audio output	
No.203 AUDIO OUTPUT SELECT	30
No.204 Hi-Fi OUT AT SEARCH	30
No.206 AUD-2/LTC	30
●Servo	
No.000 FRAME SERVO	28
No.001 TBC CONNECT	30
No.003 SYNC SELECT	28
●On-screen display	
No.500 ON SCREEN DISPLAY	29
No.504 INFORMATION	33

Reference pages

External timer recording	p.42
External timer playback	p.38

2-3 DISPLAYS


1 Time counter
[COUNTER] switch
CTL
TC
UB
"CTL"
0.00.00
CTL counter
"TC"
00.00.00
CTL time code,
LTC/VITC time code
"UB"
0000
CTL time code
user bits
000000
LTC/VITC time code
user bits
H
M
S
[MENU] button
MENU
When malfunction occurs
2 Menu setting display
000 1
3 Warning code display
Er01 1

Counter display

The BR-S800E/BR-S500E's counter is switchable between the following items.

1 Time counter
The counter usually functions as a tape time counter. If the MENU button is pressed, the counter changes to the Menu switch setting mode.

2 Menu setting display
For Menu switch setting. After setting Menu switches, press the MENU button to return to the tape time counter.

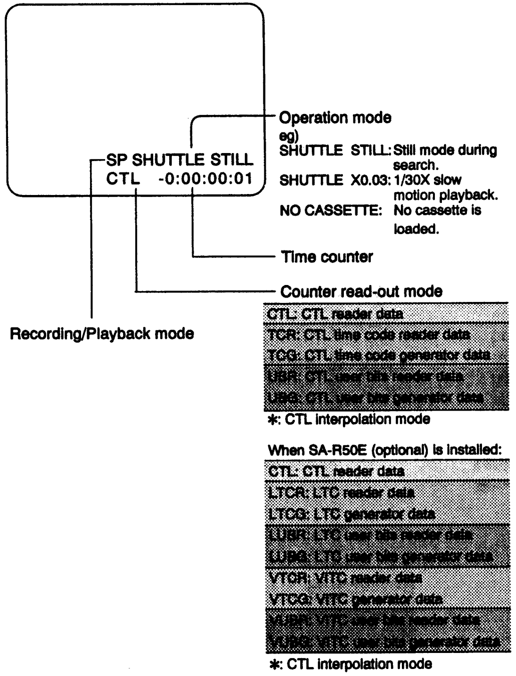
3 Warning code display
If a malfunction occurs, the corresponding numerical warning code is automatically displayed.

Time counter display
If the repeat playback start or end point has been set, the counter shows the start or end point when the IN/+SHIFT or OUT/–SHIFT button is pressed. (Setting the COUNTER switch to either "CTL" or "TC" is required.)

Reference pages
Menu switch setting p.24
Warning code display p.51

2-3 DISPLAYS

1 Mode displays/Time counter


SP SHUTTLE STILL
CTL -0:00:00:01
Operation mode
Time counter
Counter read-out mode
Recording/Playback mode

Operation mode
eg)
SHUTTLE STILL: Still mode during search.
SHUTTLE X0.03: 1/30X slow motion playback.
NO CASSETTE: No cassette is loaded.

Counter read-out mode
CTL: CTL reader data
TCR: CTL time code reader data
TCG: CTL time code generator data
UBR: CTL user bits reader data
UBG: CTL user bits generator data
*: CTL interpolation mode

When SA-R50E (optional) is installed:
CTL: CTL reader data
LTCR: LTC reader data
LTCG: LTC generator data
LUBR: LTC user bits reader data
LUBG: LTC user bits generator data
VTCR: VITC reader data
VTCG: VITC generator data
VUBR: VITC user bits reader data
VUBG: VITC user bits generator data
*: CTL interpolation mode

On-screen displays

On-screen information is available only via the rear panel VIDEO OUT MONITOR connector.

The following four display modes are available.

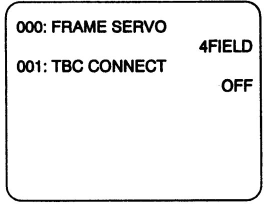
1 Mode displays/Time counter
Normal on-screen display. Time counter shows counter read-out data in hours, minutes, seconds, and frames. If the MENU button is pressed, the display changes to the Menu switch setting mode.
NOTE:
Due to the characteristics of the CTL time code, any discontinuity in existing CTL time code data (including user bits) during playback may result in an incorrect counter display reading for about two seconds at the point where the data changes.

2 Menu setting display
For Menu switch setting. After setting Menu switches, press the MENU button to return to the normal on-screen display.

3 Hour meter data display
In the Menu setting mode, hour meter data is shown with Menu switch No.909. (Hour meter data is not displayed on the counter.)

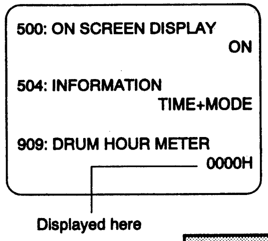
4 Warning code display
If a malfunction occurs, the corresponding warning code is automatically displayed.

2 Menu setting display



000: FRAME SERVO
4FIELD
001: TBC CONNECT
OFF

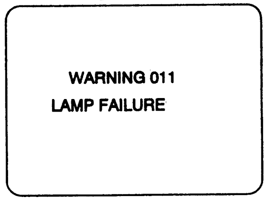
3 Hour meter data display



500: ON SCREEN DISPLAY
ON
504: INFORMATION
TIME+MODE
909: DRUM HOUR METER
0000H

Displayed here

4 Warning code display

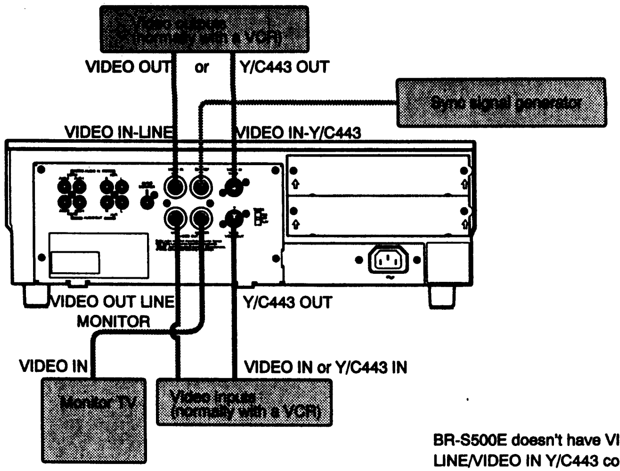


WARNING 011
LAMP FAILURE

Reference pages
Menu switch setting p.24
Warning code display p.51

3 CONNECTIONS

3-1 VIDEO SIGNAL


Video outputs (normally with a VCR)
VIDEO OUT
or
Y/C443 OUT
Sync signal generator
VIDEO IN-LINE
VIDEO IN-Y/C443
VIDEO OUT LINE
MONITOR
Y/C443 OUT
VIDEO IN
VIDEO IN or Y/C443 IN
Monitor TV
Video inputs (normally with a VCR)

BR-S500E doesn't have VIDEO IN LINE/VIDEO IN Y/C443 connectors.

Connection with a monitor
On-screen information can only be output from the VIDEO OUT MONITOR connector. So connect a monitor to it.

Y/C 443 connectors
If the units you're connecting to have Y/C 443 connectors, we recommend you use the Y/C connection to make the most of S-VHS picture performance.

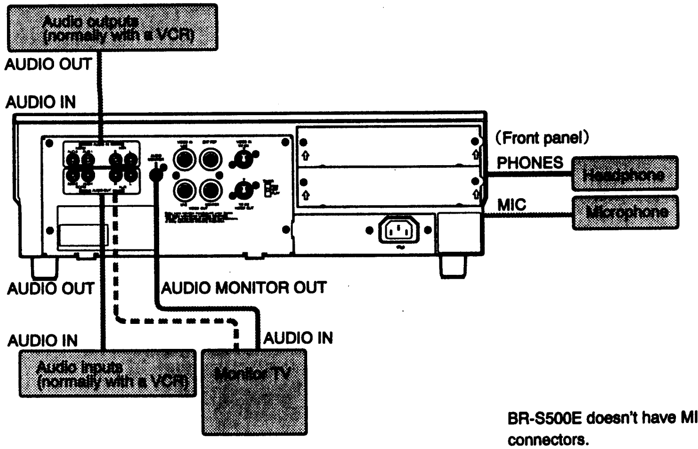
Type of connectors

INPUT: VIDEO IN LINE		BNC
	VIDEO IN Y/C443	4-PIN
	EXT REF	BNC
OUTPUT: VIDEO OUT LINE/MONITOR		BNC
	VIDEO OUT Y/C 443	4-PIN

Optional cables
A variety of optional cables suitable for different applications are available for Y/C connection.

Model	Connectors on connected units Output	 Input	length
VC-G30U	4-pin	4-pin	3 m
VC-G50U	4-pin	4-pin	5 m
VC-G3030U	4-pin	7-pin	3 m
VC-G2030U	7-pin	4-pin	3 m
VC-G2050U	7-pin	4-pin	5 m

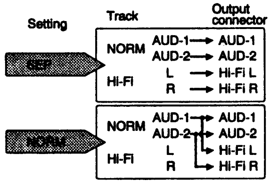
3-2 AUDIO SIGNAL


Audio outputs (normally with a VCR)
AUDIO OUT
AUDIO IN
(Front panel)
PHONES
Headphone
MIC
Microphone
AUDIO OUT
AUDIO MONITOR OUT
AUDIO IN
AUDIO IN
Audio inputs (normally with a VCR)
Monitor TV

BR-S500E doesn't have MIC/AUDIO IN connectors.

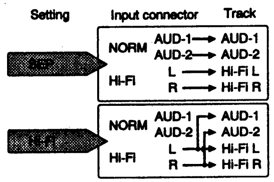
Connection with a monitor
The audio signal output from the AUDIO MONITOR OUT connector is monaural. Select the signal to be output with the front panel AUDIO MONITOR switch (☞p.11).

Menu switch No.203 "AUDIO OUTPUT SELECT" setting
At the factory, the unit is preset to output Hi-Fi audio from Hi-Fi AUDIO OUT and normal audio from NORMAL AUDIO OUT. With Menu switch setting, normal audio can be output both from Hi-Fi AUDIO OUT and NORMAL AUDIO OUT. This is convenient when you want to output two channels of stereo normal audio signals. (☞p.30)


Setting
Track
Output connector
SEP
NORM
AUD-1 → AUD-1
AUD-2 → AUD-2
Hi-Fi
L → Hi-Fi L
R → Hi-Fi R
NORM
NORM
AUD-1 → AUD-1
AUD-2 → AUD-2
Hi-Fi
L
R
Hi-Fi L
Hi-Fi R

Menu switch No.204 "HI-FI OUT AT SEARCH" setting
With Menu switch setting, normal audio can be output during search or during plyaback of a tape with no Hi-Fi audio signals. (☞p.30)

Menu switch No.207 "AUDIO INPUT SELECT" setting (BR-S800E only)
At the factory, the unit is preset to record the signal input to Hi-Fi AUDIO IN on the Hi-Fi audio track and the signal input to NORMAL AUDIO IN on the normal audio track. With Menu switch setting, the signal input to Hi-Fi AUDIO IN can be recorded both on the Hi-Fi and normal audio tracks. This is convenient when you want to record the same signal on the Hi-Fi and normal audio tracks. (☞p.30).


Setting
Input connector
Track
SEP
NORM
AUD-1 → AUD-1
AUD-2 → AUD-2
Hi-Fi
L → Hi-Fi L
R → Hi-Fi R
Hi-Fi
NORM
AUD-1
AUD-2
Hi-Fi
L
R
AUD-1
AUD-2
Hi-Fi L
Hi-Fi R

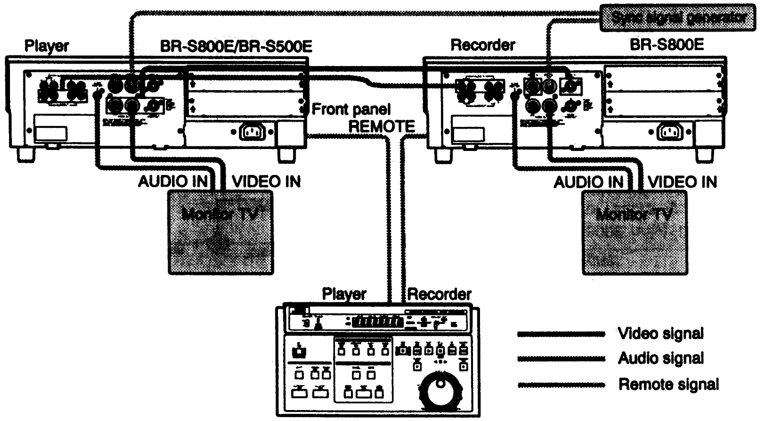
Type of connectors
Front panel:

PHONES:	ø 3.5 mini-jack (stereo)
MIC:	ø 3.5 mini-jack (monaural)

Rear panel:
All connectors are RCA type.

3-3 EDITING

Connection example when using RM-G800U (optional).
NOTE: When editing, set menu switch No. 337 "SLOW MODE" to "LINEAR".



Editing controller RM-G800U

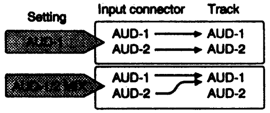
This is a standard editing system in combination with the optional editing controller RM-G800U.

NOTE:
To connect the remote cable, be sure that the power of the VCR is turned off.

External sync signal
By inputting an external sync signal, you can ensure that the Recorder's picture remains stable even when special effects playback is engaged in the Player. Use a composite sync signal or a composite video signal for external sync.

Extension remote cable (optional)
The RM-G800U's cable is about 85 cm long. If you want to extend the cable, use the optional VC-G8030U cable (3 m).

Menu switch No.205 "AUD-1 REC." setting (BR-S800E only)
The signals input to AUDIOIN NORM AUD-1 and AUD-2 can be mixed and be recorded on the audio-1 track. (☞p.29)
To permit later insertion of BGM or narration on the recorder's AUD-2 track, use this setting to mix the player's audio output (AUD-1 and AUD-2) and record both signals on the recorder's AUD-1 track.



NOTES:
When editing with the SR-S368E video cassette recorder, pay attention to the following points.
- Set menu switch No. 03 "SYNCHRONIZATION" of the RM-G800U to "OFF" as the SR-S368E does not have a bumping function.
- Editing accuracy is lowered when preview or goto is used repeatedly.

3-3 EDITING

Editing system with other optional editing controllers

In addition to the RM-G800U, the following editing controllers can also be used in a BR-S800E/BR-S500E editing system. Depending on which controller you use, some optional boards and special settings may be necessary. See below.

With RM-86U:
- SA-K28EA 45-pin interface board.
- Set Menu switches No.330 "VIDEO EDIT DELAY" and No.331 "AUDIO EDIT DELAY" to "4 FRAMES". The RM-86U's edit timing cannot be set to "-4 FRAMES". Set it to "-3 FRAMES". For setting procedures , consult your local JVC dealer.((☞p.32)
- Set Menu switches No.319 "TAPE MAX SPEED" and No.340 "SEARCH SPEED" to "X17". (☞p.32)
- CTL time code editing is not possible.
- Normal audio may overlap for a few frames after the edit-in point.
- Set the RM-86U internal switch to "BUMP OFF". This switch is factory-preset to "OFF". For more details, consult your JVC dealer.

With RM-G810U:
- SA-K28EA 45-pin interface board.
- CTL time code editing is not possible.
- Set the RM-G810U's "EDIT TIMING ADJUSTMENT" to "–8 FRAMES". For setting procedures, consult your local JVC dealer.

With RM-G860E:
- SA-K28EA 45-pin interface board or SA-K26E 9-pin interface board.
- CTL time code editing is possible with the SA-K26E installed. (CTL time code setting is not possible.)
- Set the RM-G860E's "EDIT TIMING ADJUSTMENT" to "–8 FRAMES".
- When "BUMP ON" is set, set editing accuracy to ±1 frame using the SW2-2 and SW2-3 switches on the RM-G860E's system setting panel.

With RM-G870E:
- SA-K26E 9-pin interface board.
- CTL time code editing is possible.
- Set the RM-G870E's "EDIT TIMING ADJUSTMENT" to "–8 FRAMES".

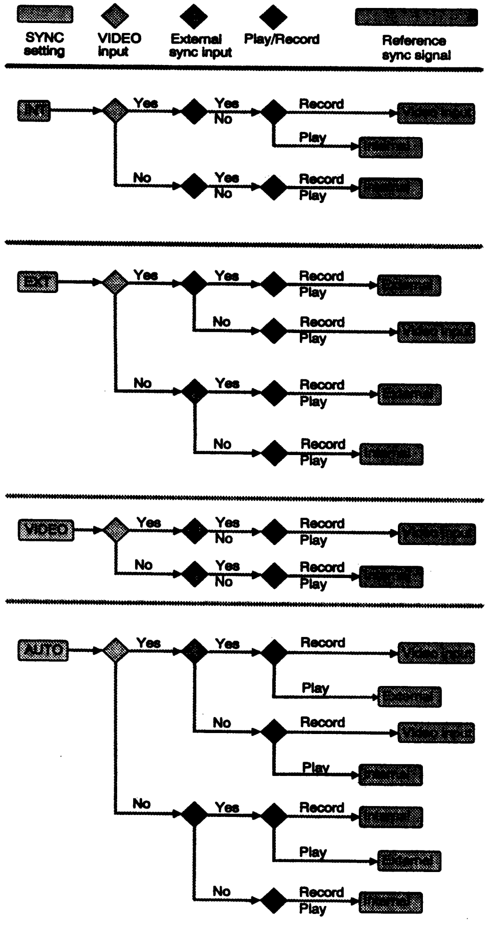
When LTC/VITC (EBU) time code is required:
- SA-R50E time code reader/generator board. When installing the SA-R50E, the SA-K50E adapter board is necessary. When installing the SA-R50E by attaching it to the SA-K26E, the SA-K50E is not necessary.

When connecting to a computer:
- SA-K27EA RS-232C interface board.
- Use "cross-type" RS-232C cable to connect the SA-K27EA with a computer.

Reference pages
Optional accessories p.55

3-4 REFERENCE SYNC SIGNALS SETTING

In this flowchart, the "Record" operation applies not only to the actual record or edit mode, but also to the condition existing when the tally lamp lights after selection of the edit mode (assemble, insert) on the remote editing controller during playback.


SYNC setting
VIDEO input
External sync input
Play/Record
Reference sync signal
INT
EXT
VIDEO
AUTO
Yes
No
Record
Play
Video input
Internal
External

When the RM-G800U remote editing controller is connected, "Play" operation continues even if the edit mode is selected while the play mode is engaged.

Reference sync signals for recording and playback

Sync signal:
A sync signal is essential for stable VCR tape running. Playback and recording are based on the sync signal.

Sync signal variation:
The BR-S800E/BR-S500E can use any of the following types of signal as a reference sync signal.

1. Sync signal generated by the VCR's internal sync signal generator.
2. Input video signal applied to the VIDEO IN connector.
3. External sync signal applied to the SYNC IN connector
4. Advanced sync signal from TBC applied to the SYNC IN connector.

Menu switch related to sync signal setting:
Reference sync signal can be set via Menu switch No.003 "SYNC SELECT". (☞p.28)
Settings

INTERNAL: Locked to the sync signal from the built-in sync signal generator for playback, and locked to the input video signal for recording.

EXTERNAL: Locked to the external sync signal.

VIDEO (BR-S800E only): Locked to the input video signal.

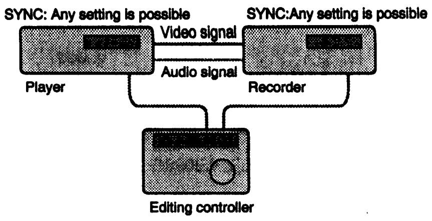
AUTO (BR-S800E only): Locked to the input video signal for recording, and locked to the external sync signal for playback.

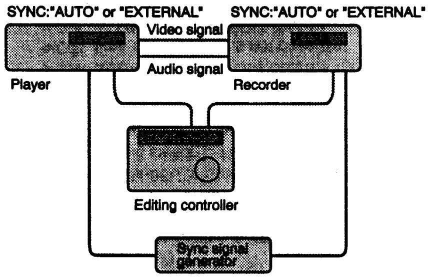
Factory preset:
BR-S800E: "AUTO"
BR-S500E: "INTERNAL"

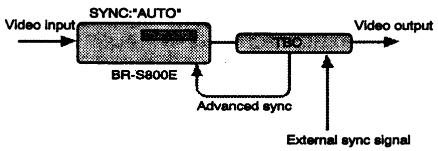
Sync signal selection structure:
If the sync signal selected via Menu switch above is not supplied, the VCR will choose another signal for sync depending on the situation. This is described in the flowchart at left.

Reference pages
Menu switch setting..........................p.25

3-4 REFERENCE SYNC SIGNALS SETTING


SYNC: Any setting is possible
SYNC:Any setting is possible
Video signal
Audio signal
Player
Recorder
Editing controller


SYNC:"AUTO" or "EXTERNAL"
SYNC:"AUTO" or "EXTERNAL"
Video signal
Audio signal
Player
Recorder
Editing controller
Sync signal generator


SYNC:"AUTO"
Video input
Video output
BR-S800E
TBC
Advanced sync
External sync signal

Guide to reference sync signal setting:

- **Editing system**
  - When external sync is not applied:
    Player: Any setting is possible.
    Recorder: Any setting is possible.

    NOTE: When special effects playback is engaged in the Player, the Recorder's picture may be distorted. This is not a malfunction. To prevent this, use external lock.
  - When external sync is applied:
    Player: "AUTO" or "EXTERNAL".
    Recorder: "AUTO" or "EXTERNAL".
- **Recording/transmission system using an external TBC**
  - BR-S800E:
    When using the BR-S800E for both recording and feeding purposes: "AUTO".
    When using the BR-S800E as a feeder only : "AUTO" or "EXTERNAL".
  - BR-S500E:
    "EXTERNAL".

  NOTE: Set Menu switch No.001 "TBC CONNECT" to "ON". (☞p.30)

Reference pages
Menu switch setting..........................p.25

4 MENU SWITCH SETTING

4-1 MENU SWITCH ORGANISATION

Menu switches

In addition to the front panel switches, the BR-S800E/BR-S500E incorporate various On-Screen Menu switches which can be set referring to the monitor screen or counter display. The Menu switch setting data is stored in the VCR's internal memory and remains even after the power is turned off.

Menu switch hierarchy

Levels

Due to the variety and complexity of the setting items available via the Menu switches, the switches have been divided into two levels to simplify easier operation.

Menu switch-1: Switches initially available.
These are switches which may be used more frequently such as normal audio Audio Limiter ON/OFF, Dolby NR ON/OFF, etc.

Menu switch-2: Switches available when Menu switch-1 No.338 "MENU SW 2" is set to "OPEN".
These are switches which may be used less frequently than switch-1. At the factory, Menu switch No.338 "MENU SW 2" is preset to "CLOSE". Set it to "OPEN" to activate switch-2 settings.

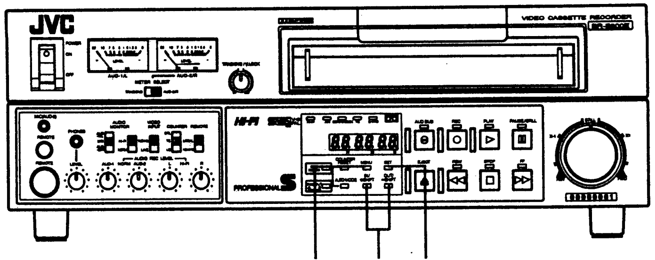
Category

The Menu switches in each level are separated into the following categories as shown at left.

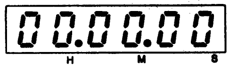
- **Servo**
  Menu switches No.000 — 004
- **Video**
  Menu switches No.100 — 101
- **Audio**
  Menu switches No.200 — 208
- **System**
  Menu switches No.300 — 351
- **On-screen**
  Menu switches No.500 — 504

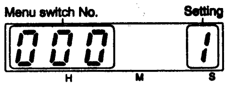
4-2 SETTING PROCEDURE

Illustration shows BR-S800E

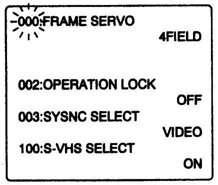


Counter display





Monitor screen

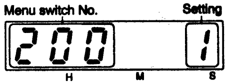


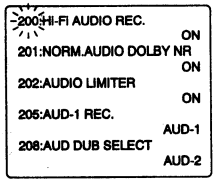
```
000:FRAME SERVO
                     4FIELD

002:OPERATION LOCK
                        OFF
003:SYSNC SELECT
                      VIDEO
100:S-VHS SELECT
                         ON
```

Operation

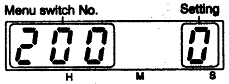
1 Engage the Menu switch setting mode.
Press the MENU button.
→ Counter display and monitor screen change to the Menu switch setting mode.

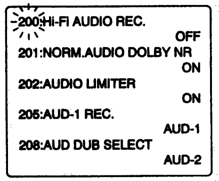




```
200:HI-FI AUDIO REC.
                         ON
201:NORM.AUDIO DOLBY NR
                         ON
202:AUDIO LIMITER
                         ON
205:AUD-1 REC.
                      AUD-1
208:AUD DUB SELECT
                      AUD-2
```

2 Select the switch item to be set.
Press either the IN/+SHIFT or OUT/–SHIFT button to select desired item. The selected item will start blinking on the monitor screen.





```
200:HI-FI AUDIO REC.
                        OFF
201:NORM.AUDIO DOLBY NR
                         ON
202:AUDIO LIMITER
                         ON
205:AUD-1 REC.
                      AUD-1
208:AUD DUB SELECT
                      AUD-2
```

3 Change the setting of the selected item.
Press the SET button to set data as desired.
If you want to set another item, repeat steps 2 to 3.

4 End Menu switch setting.
Press the MENU button. The Counter display returns to the tape counter and the Menu setting display goes off the screen.

Hour meter display:
Hour meter data can be displayed only on-screen with Menu switch No.909. It cannot be displayed on the counter.

4-3 MENU SWITCH LIST

● SERVO		No.	On-screen Description	Explanation	Page
SW-1		000	FRAME SERVO	Frame servo mode selection.	28
		002	OPERATION LOCK	Mode lock ON/OFF.	28
		003	SYNC SELECT	Reference sync signal selection.	28
SW-2		001	TBC CONNECT	TBC ON/OFF (if connected).	30
		004	AUTO H. PHASE	Auto H-phase circuit ON/OFF.	30

● VIDEO		No.	On-screen Description	Explanation	Page
SW-1	*	100	S-VHS SELECT	S-VHS recording with an S-VHS tape ON/OFF.	28
		101	EDIT SELECT	Recording/playback picture quality selection.	28

● AUDIO		No.	On-screen Description	Explanation	Page
SW-1	*	200	HI-FI AUDIO REC.	Hi-Fi audio recording ON/OFF.	29
		201	NORM. AUDIO DOLBY NR	Dolby NR ON/OFF for normal audio.	29
	*	202	AUDIO LIMITER	Audio limiter ON/OFF for normal audio.	29
	*	205	AUD-1 REC.	Signal selection to be recorded on the audio-1 track.	29
	*	208	AUD DUB SELECT	Soundtrack selection for audio dubbing.	29
SW-2		203	AUDIO OUTPUT SELECT	Selects the signal output from AUDIO OUT.	30
		204	HI-FI OUT AT SEARCH	Selects the signal output from AUDIO OUT Hi-Fi during search.	30
		206	AUD-2/LTC	Selects the signal to be recorded on the audio-2 track.	30
	*	207	AUDIO INPUT SELECT	Selects the signal to be recorded on the AUD-1/2 tracks.	30

● SYSTEM		No.	On-screen Description	Explanation	Page
SW-1		338	MENU SW 2	For Menu switch-2 items setting.	29
SW-2		300	DIRECT EJECT	Mode selection for Eject.	31
		301	DIRECT SEARCH	Mode selection for Search.	31
	*	302	AUTO REC. PREROLL	Back space function ON/OFF in the Record-Pause mode.	31
	*	304	RECORDING INHIBIT	Inhibits recording on cassettes with safety tab.	31
	*	305	REPEAT REC.	Repeat recording ON/OFF.	31
		312	MODE AT TAPE END	Mode selection when tape end is detected.	31
		319	TAPE MAX SPEED	Maximum tape speed selection for rewind and fast-forward.	32
	*	330	VIDEO EDIT DELAY	Delay time selection for video signals at edit point in editing.	32
	*	331	AUDIO EDIT DELAY	Delay time selection for audio signals at edit point in editing.	32
		337	SLOW MODE	Slow-motion mode selection.	32
	*	339	A.DUB ENABLE AT LTC	Audio dubbing on LTC-recorded audio-2 track.	32
		340	SEARCH SPEED	Maximum search speed selection.	32
		343	SUB WARNING INHIBIT	Mode selection when a malfunction occurs.	32
		351	SYNCHRONIZATION	Capstan bump ON/OFF with the editing controller.	32

● ON-SCREEN		No.	On-screen Description	Explanation	Page
SW-1		500	ON SCREEN DISPLAY	On-Screen ON/OFF.	29
SW-2		504	INFORMATION	Available on-screen information selection.	33

*: Not available with BR-S500E.

4-3 MENU SWITCH LIST

A Quick Reference Chart Of Menu Switches

	Menu switch No.338 "MENU SW 2" is "CLOSE". (Initial setting)		Menu switch No.338 "MENU SW 2" is "OPEN".	
SERVO	000	FRAME SERVO	001	TBC CONNECT
	002	OPERATION LOCK	004	AUTO H. PHASE
	003	SYNC SELECT		
VIDEO	100	S-VHS SELECT		
	101	EDIT SELECT		
AUDIO	200	HI-FI AUDIO REC.	203	AUDIO OUTPUT SELECT
	201	NORM. AUDIO DOLBY NR	204	HI-FI OUT AT SEARCH
	202	AUDIO LIMITER	206	AUD-2/LTC
	205	AUD-1 REC.	207	AUDIO INPUT SELECT
	208	AUD DUB SELECT		
SYSTEM	338	MENU SW 2	300	DIRECT EJECT
			301	DIRECT SEARCH
			302	AUTO REC. PREROLL
			304	RECORDING INHIBIT
			305	REPEAT REC.
			312	MODE AT TAPE END
			319	TAPE MAX SPEED
			330	VIDEO EDIT DELAY
			331	AUDIO EDIT DELAY
			337	SLOW MODE
			339	A. DUB ENABLE AT LTC
			340	SEARCH SPEED
			343	SUB WARNING INHIBIT
			351	SYNCRONIZATION
ON SCREEN	500	ON SCREEN DISPLAY	504	INFORMATION

The following Menu switches are available only with the BR-S800E and not with the BR-S500E.

No.100	S-VHS SELECT
No.200	Hi-Fi AUDIO REC.
No.202	AUDIO LIMITER
No.205	AUD-1 REC.
No.207	AUDIO INPUT SELECT
No.208	AUD DUB SELECT
No.302	AUTO REC. PREROLL
No.304	RECORDING INHIBIT
No.305	REPEAT REC.
No.330	VIDEO EDIT DELAY
No.331	AUDIO EDIT DELAY
No.339	A. DUB ENABLE AT LTC

4-4 MENU SWITCH-1 ITEMS

More frequently used switches are available with SWITCH-1.

SWITCH 1 SERVO

No.000 FRAME SERVO

Setting: OFF (0) .... Frame Servo OFF*.
●4FIELD (1) ...... Uses Colour frame servo when editing in colour frame servo mode.
2FIELD (2) ...... Use frame servo.

Content: Selects the frame servo mode. Normally set to 4FIELD. If the servo is unstable when the following signals are used, set to OFF. Not frame-controlled signals Low video S/N signals after repeated dubbing.
*The setting position "OFF (0)" is not available with the BR-S500E.

No.002 OPERATION LOCK

Setting: ●OFF (0) .... Operate lock OFF.
ON (1) .... Operate lock ON.

Content: Activates or defeats mode lock function. Set to ON to lock the VCR in its current mode.
When set to ON: All buttons, switches, and controls are inoperative except menu setting buttons, the METER SELECT switch, PHONES LEVEL control, and the POWER switch.

The TRACKING control and the audio reacording level controls are rendered inoperative. Because the values for these controls are determined by the last-set position, any adjustment made to these controls while the unit is in the operation lock status will take effect the next time off and then on again.. If this happens, set the operation lock to "OFF" and adjust the controls as desired.

No.003 SYNC SELECT

Setting: INTERNAL (0) ...... Internal lock.
EXTERNAL (1) ..... External lock.
VIDEO (2) .... Input video signal
●AUTO (3) .... Auto switching

Content: Selects the reference sync signal for playback and recording.
INTERNAL: Locked to the internal sync signal.

EXTERNAL: Locked to the external sync signal.

VIDEO: Locked to the input video signal.

AUTO: Locked to the input video signal for recording. Locked to the advanced sync signal from TBC for playback. Use this setting when the unit is used as recorder and a TBC is connected.

For details, ☞p.22.

(For the BR-S500E, only INTERNAL and EXTERNAL are available. Factory preset is INTERNAL.)

SWITCH 1 VIDEO

No.100 S-VHS SELECT

Setting: VHS (0) ...... S-VHS recording OFF.
●AUTO (1) .... S-VHS recording ON.

Content: Selects the S-VHS/VHS recording mode when using an S-VHS tape. Set to VHS to record in the VHS mode with an S-VHS tape. When a VHS tape is used, the recording mode is VHS regardless of the setting.

No.101 EDIT SELECT

Setting:● OFF(P.B.) (0)........ Playback with normal picture.
DUB or EDIT (1).... When used as Player in dubbing or editing.
ENHANCED (2)..... Playback with sharper picture edges.

Content: Selects the type of playback picture. Set to DUB or EDIT in dubbing or editing to reduce deterioration of picture quality.

●: Factory preset
( ): Display on the counter

4-4 MENU SWITCH-1 ITEMS

SWITCH 1 AUDIO

No.200 HI-FI AUDIO REC.

Setting: OFF (0) .... Hi-Fi audio recording OFF.
●ON (1) .... Hi-Fi audio recording ON.

Content: Activates or defeats Hi-Fi audio recording.

No.201 NORM. AUDIO DOLBY NR

Setting: OFF (0) .... Dolby NR OFF.
●ON (1) .... Dolby NR ON.

Content: Activates or defeats Dolby NR circuit for normal audio in recording and playback.

No.202 AUDIO LIMITER

Setting: OFF (0) .... Audio limiter OFF.
●ON (1) .... Audio limiter ON.

Content: Activates or defeats audio limiter for normal audio.

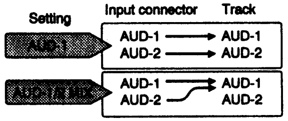
No.205 AUD-1 REC.

Setting:●AUD-1 (0) .... Records audio-1 signals.
AUD-1/2 MIX (1) ... Records mixed audio signals.

Content: Selects audio signals to be recorded on the normal audio-1 track.

AUD-1: Audio signals input to AUD-1 are recorded.

AUD-1/2 MIX: Mixed audio signals input to AUD-1 and AUD-2 are recorded. No signal is recorded on the audio-2 track.



When set to "AUD-1/2 MIX", the microphone input signal is mixed with the signal input to the AUD-1 connector and recorded on the AUD-1 track.

No.208 AUD DUB SELECT

Setting: AUD-1 (1) ...... Records on the audio-1 track.
●AUD-2 (2) ...... Records on the audio-2 track.
AUD-1/2 (3) ... Records on both tracks.

Content: Selects the soundtrack for audio dubbing.
AUD-1: The signal is recorded on the audio-1 track.

AUD-2: The signal is recorded on the audio-2 track.

AUD-1/2: The signal is recorded both on the audio-1 and audio-2 tracks.

To dub a microphone input signal on the AUD-1 track, set this switch to "AUD-1" and set the menu switch No.205 "AUD-1 REC" to "AUD-1/2 MIX".

SWITCH 1 SYSTEM

No.338 MENU SW 2

Setting: ●CLOSE (0) .. Menu switch-2 not available.
OPEN (1) .... Menu switch-2 available.

Content: Activates or defeats Menu switch-2 items.

CLOSE: Only Menu switch-1 items are available.

OPEN: Both Menu switch-1 and Menu switch-2 items can be set.

SWITCH 1 ON SCREEN

No.500 ON SCREEN DISPLAY

Setting: OFF (0) .... On-Screen display OFF.
●ON (1) .... On-Screen display ON.

Content: Activates or defeats On-Screen display via VIDEO OUT MONITOR. On-Screen display is not available via VIDEO OUT LINE or Y/C.

4-5 MENU SWITCH-2 ITEMS

SWITCH 2 SETUP

No.001 TBC CONNECT

Setting: ●OFF (0) .... When TBC is not connected.
ON (1) .... When TBC is connected.
Content: Set to ON when an external TBC is connected.

No.004 AUTO H. PHASE

Setting: OFF (0) .... Auto H-Phase OFF.
●ON (1) .... Auto H-Phase ON.
Content: Activates or defeats Auto H-Phase (automatic horizontal phase lock) circuit. Normally set to ON to reduce picture distortion at the edit point. When executing frame-unit editing repeatedly, set to OFF.

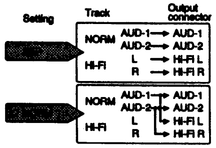
SWITCH 2 AUDIO

No.203 AUDIO OUTPUT SELECT

Setting: ●SEP (0) .... Outputs as labeled.
NORM (2) ... Outputs only normal audio signals.
Content: Selects signals output via rear panel AUDIO OUT connectors.

SEP: To output as labeled: normal audio from AUD-1/AUD-2, Hi-Fi audio from Hi-Fi L/R.

NORM: To output normal audio from all connectors: Hi-Fi L outputs normal audio-1 signal and Hi-Fi R outputs normal audio-2 signal.



No.204 HI-FI OUT AT SEARCH

Setting: ●MUTE (0) .... Outputs muted Hi-Fi audio.
NORM (1) ... Outputs normal audio.
Content: Selects output signals between muted Hi-Fi audio and normal audio via rear panel Hi-Fi AUDIO OUT connectors during search or during playback of a tape with no Hi-Fi audio signals.

No.206 AUD-2/LTC

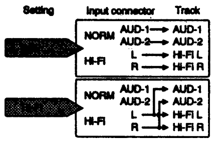
Setting: ●AUD-2 (0) ... Records the audio signal.
LTC (1) .... Records LTC signal.
Content: Selects usage of the audio-2 track either for audio signal recording or for LTC signal recording. When set to "LTC", no audio signal is output from the NORM AUD-2 connector.
Be sure that the VCR is in the Stop mode when switching between AUD-2 and LTC.

No.207 AUDIO INPUT SELECT

Setting: ●SEP (0) .... Records each signal independently.
Hi-Fi (1) ...... Records Hi-Fi audio on all tracks.
Content: Selects input signal to be recorded.

SEP: To record each signal on corresponding track: normal audio on AUD-1/AUD-2, Hi-Fi audio on Hi-Fi L/R.

Hi-Fi: To record Hi-Fi audio on all tracks: audio-1 signal is recorded on Hi-Fi L track and audio-2 signal is recorded on Hi-Fi R track.



●: Factory preset
( ): Display on the counter

☞ p.56 GLOSSARY: Auto H-phase, LTC

4-5 MENU SWITCH-2 ITEMS

SWITCH 2 SYSTEM

No.300 DIRECT EJECT

Setting: DISABLE (0) ... Only possible in the Stop mode.
●ENABLE (1) .... Possible in any mode.
Content: Selects modes in which the cassette can be ejected.

DISABLE: Ejection only possible in the Stop mode.

ENABLE: Ejection possible in any mode.

No.301 DIRECT SEARCH

Setting: DISABLE (0) ... Possible in the Still modes.
●ENABLE (1) .... Possible in various modes.
Content: Selects modes to accept dial search.

DISABLE: Dial search is possible in the Still mode.

ENABLE: Dial search is possible in the Still, Play, Stop, REW, and FF modes.

No.302 AUTO REC. PREROLL

Setting: DISABLE (0) .... No preroll operation.
●ENABLE (1) ..... Preroll operation.
Content: Activates or defeats back space editing.

DISABLE: Starts recording without prerolling in the Record-Pause or Audio Dub-Pause mode. Picture will be distorted at record-start point.

ENABLE: Starts recording with preroll in the Record-Pause or Audio Dub-Pause mode. Picture won't be distorted.

No.304 RECORDING INHIBIT

Setting: ●OFF (0) .... Normal recording is possible
ON (1) .... Recording is not possible.
Content: OFF: Recording is possible with cassettes with safety tab in place.

ON: Recording is not possible whether there is a safety tab or not. If the VCR is used only as a player, set to ON to prevent misoperation.

No.305 REPEAT REC.

Setting: ●DISABLE (0) .... No repeat recording.
ENABLE (1) ..... Engages repeat recording.
Content: Activates or defeats repeat recording.

DISABLE: No repeat recording. The VCR stops recording at tape end. Normally set to this position.

ENABLE: Activates repeat recording. The VCR stops recording at tape end, then rewinds and starts recording again from the beginning of the tape.

No.312 MODE AT TAPE END

Setting: ●S.REW (0) .. Stops at tape end.
REW (1) ..... Stops at tape begin after Rewind.
Content: Selects the mode entered when the end of the tape is detected.

S.REW: Rewinds the leader section and enters the Stop mode.

REW: Rewinds to the beginning of tape and enters the Stop mode.

No.319 TAPE MAX SPEED

Setting: ●X140 (0) ..... 140X normal speed.
X33 (1) .... 33X normal speed.
X17 (2) .... 17X normal speed.
Content: Selects the maximum tape speed during Rewind and Fast-forward.

X140: Maximum speed is 140X. The remote control counter (optional) does not run if it is connected via 45-pin.

X33: Maximum speed is 33X. The remote control counter (optional) does not run if it is connected via 45-pin.

X17: Maximum speed is 17X.

With S-VHS-C or VHS-C cassette tape, maximum tape speed is 33X (not 140X) normal speed.

4-5 MENU SWITCH-2 ITEMS

SWITCH 2 SYSTEM

No.330 VIDEO EDIT DELAY

Setting: ●8 FRAMES (0) ...... Delays 8 frames.
4 FRAMES (1) ...... Delays 4 frames.
Content: Selects the length of time before video recording starts at the edit point in editing. Normally set to "8 FRAMES". Set to "4 FRAMES" when the VCR is controlled via the RM-86U remote control.

No.331 AUDIO EDIT DELAY

Setting: ●8 FRAMES (0) ...... Delays 8 frames.
4 FRAMES (1) ...... Delays 4 frames.
Content: Selects the length of time before video recording starts at the edit point in editing. Normally set to "8 FRAMES". Set to "4 FRAMES" when the VCR is controlled via the RM-86U remote control.

No.337 SLOW MODE

Setting: LINEAR (0) .... Linear slow.
●STEP (1) .... Step slow.
Content: Selects slow-motion playback mode.

LINEAR: Noise bars appear during slow. Normal audio is output during slow. This setting is recommended for editing.

STEP: Noise bars don't appear during slow. No audio is output during slow.

No.339 A. DUB ENABLE AT LTC

Setting: ●DISABLE (0) .... Dubbing is not possible.
ENABLE (1) ..... Dubbing is possible.
Content: Activates or defeats audio dubbing on the audio-2 track with LTC signals.

DISABLE: Audio dubbing is not possible if LTC signals have been recorded on the audio-2 track.

ENABLE: Audio dubbing is possible even though LTC signals have been recorded on the audio-2 track.

When set to "ENABLE" and audio dubbing is executed, prerecorded LTC signals are erased. If you don't want this, set Menu switch No.208 "AUD DUB *SELECT" to "AUD-1" to execute audio* dubbing on the audio-1 track.

No.340 SEARCH SPEED

Setting: ●X33 (0) .... +/– 33X search.
X17 (1) .... +/– 17X search.
Content: Selects the maximum search speed.

X33: Maximum search speed is +/– 33 times normal when the search dial is turned fully clockwise or counterclockwise. The remote control counter (optional) does not run if it is connected via 45-pin.

X17: Maximum search speed is +/– 17 times normal when the search dial is turned fully clockwise or counterclockwise.

No.343 SUB WARNING INHIBIT

Setting: ●OFF (0) .... Enters the Warning mode.
ON (1) .... Enters the Stop or Eject.
Content: Selects the mode entered when a malfunction is detected.

OFF: When a malfunction occurs, the VCR enters the Warning mode and displays a warning code on the counter and the monitor screen. See p.51 for warning codes.

ON: When a malfunction occurs, the VCR either stops or ejects the cassette depending on the nature of the problem. (☞p.51) Warning codes are not available with this setting. For safe operation, do not use this setting unnecessarily.

●: Factory preset
( ): Display on the counter

4-5 MENU SWITCH-2 ITEMS

SWITCH 2 SYSTEM

No.351 SYNCHRONIZATION

Setting: DISABLE (0) .... Rejects Capstan bump.
●ENABLE (1) ..... Accepts Capstan bump.
Content: Accepts or rejects Capstan bump command from the editing controller.

DISABLE: Capstan bump is rejected in editing.

ENABLE: Capstan bump is accepted in editing. Increases editing accuracy.

SWITCH 2 ON SCREEN

No.504 INFORMATION

Setting: TIME (0) .... Displays time counter.
●TIME+MODE (1) .. Displays time and mode.
Content: Selects the on-screen information to be displayed.

TIME: Time counter data is displayed.

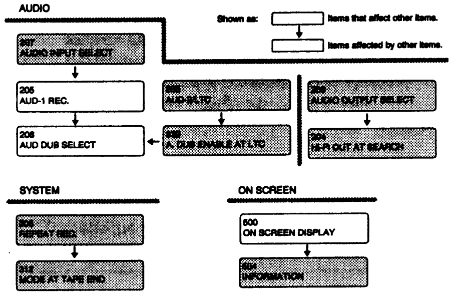
TIME+MODE: Time counter data, operation mode, and search speed are displayed.

●: Factory preset
( ): Display on the counter

4-6 RELATIONSHIP BETWEEN MENU SWITCHES

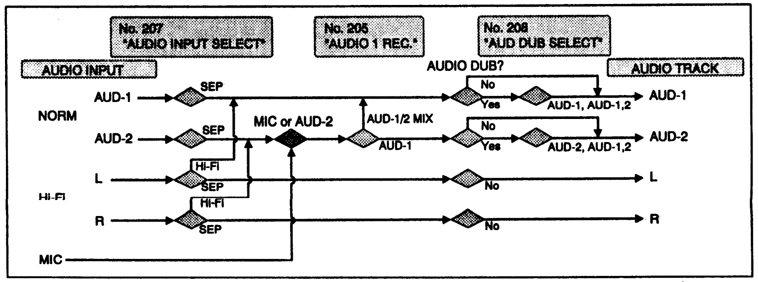
Relationship

Some Menu switches may affect the action of other Menu switches, depending on the settings. The relationship between switches is shown in the chart at right. When setting of a Menu switch does not work as expected, check to see if that setting is affected by other items.


AUDIO
Shown as:
Items that affect other items.
Items affected by other items.
207 AUDIO INPUT SELECT
205 AUD-1 REC.
208 AUD DUB SELECT
AUD-2/LTC
339 A. DUB ENABLE AT LTC
AUDIO OUTPUT SELECT
HI-FI OUT AT SEARCH
SYSTEM
REPEAT REC.
MODE AT TAPE END
ON SCREEN
500 ON SCREEN DISPLAY
504 INFORMATION

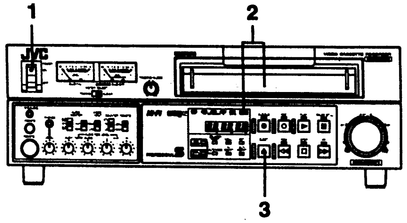
Input audio signal flowchart

The flowchart below describes how each audio input connector functions and shows how Menu switch settings determine on which track the input signal is recorded. A microphone input signal is normally recorded on the AUD-2 track. By setting Menu switch No.205 "AUD-1 REC" to "AUD-1/2 MIX", the MIC input signal can be recorded on the AUD-1 track together with the signal input to the AUD-1 connector.


No. 207 "AUDIO INPUT SELECT"
No. 205 "AUDIO 1 REC."
No. 208 "AUD DUB SELECT"
AUDIO INPUT
AUDIO DUB?
AUDIO TRACK
AUD-1
SEP
No
Yes
AUD-1, AUD-1,2
AUD-1
NORM
MIC or AUD-2
AUD-1/2 MIX
AUD-2
SEP
AUD-1
No
Yes
AUD-2, AUD-1,2
AUD-2
HI-FI
L
SEP
No
L
HI-FI
HI-FI
R
SEP
No
R
MIC

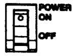
5 LOADING/UNLOADING

LOADING AND UNLOADING



Procedure

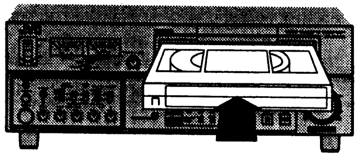
1 Turn the power on.



Set the POWER switch to ON.

2 Insert a cassette.

Insert the cassette into the cassette loading slot by gently pushing the center of the cassette's label side.



→ The cassette is automatically retracted and loaded.

→ The VCR enters the Stop mode and the "Cassette loaded indicator" ▭ lights.

3 Remove a cassette.

⏏ Press the EJECT button.

→ The cassette is automatically ejected.

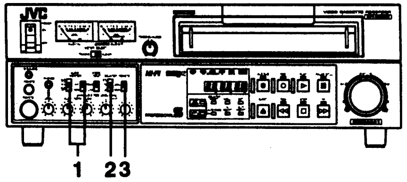
→ Remove the cassette from the cassette loading slot.

WARNING

- Do not insert fingers or foreign objects into the cassette loading slot. You may hurt yourself or damage the mechanism.
- Do not try to remove the cassette once automatic loading has started.

6 PLAYBACK

6-1 PREPARATION



Front panel switch setting

1 Set the AUDIO MONITOR select switches as required. (☞p.11)

AUDIO MONITOR
AUD -1/L
MIX
AUD -2/R
HI-FI
NORM

2 Set the COUNTER switch as required. (☞p.12)

COUNTER
CTL
TC
UB

3 Set the REMOTE switch as required. (☞p.12)

REMOTE
LOCAL
REMOTE

Menu switch setting

Set the following items as required.

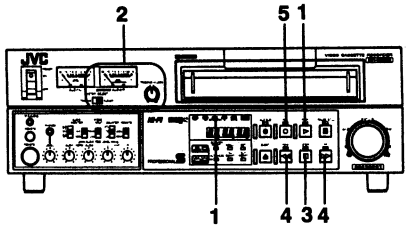
Select reference sync signal:
No.003 "SYNC SELECT" (☞p.28)
Factory preset: "AUTO" (BR-S800E)
"INTERNAL" (BR-S500E)

Select the type of picture:
No.101 "EDIT SELECT" (☞p.28)
Factory preset: "OFF"

Select TBC mode.
No.002 "TBC CONNECT" (☞p.30)
Factory preset: "OFF"
Set to "ON" when an external TBC is connected.

☞ p.56 GLOSSARY: TBC

6-2 BASIC PROCEDURE



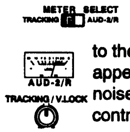
Operation

1 Play back a tape.

▷ Press the PLAY button.
→ Starts playback.

→ The SERVO LOCK indicator lights.

2 Adjust the tracking.



Turn the TRACKING control until the tracking meter (AUD-2/R) deflects fully to the right. Make sure that no noise bar appears on the monitor screen. If there is noise on the Hi-Fi audio track, turn the control until the noise is minimised.

3 Stop playback.

□ Press the STOP button.
→ Playback stops.

4 Rewind or fast-forward the tape.

⏩ Press the FF button.
→ Starts fast-forward.

⏪ Press the REW button.
→ Starts rewind.

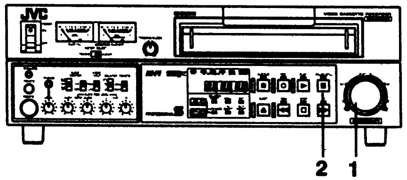
5 Input signal monitoring. (BR-S800E only)

○ If the REC button is pressed during playback, the input signal can be monitored on screen as long as the button is pressed. Do not press the REC button while pressing the PLAY button, otherwise the VCR enters the Record mode.

Maximum REW/FF speed
Factory preset: 140X normal speed.
→ Other settings (33X, 17X) are possible via Menu switch. (No.319 "TAPE MAX SPEED", ☞p.32)

VCR mode at tape end
Factory preset: Enters the Stop mode at tape end.
→ This is selectable via Menu switch; the VCR automatically rewinds when the end of the tape is reached and then stops. (No.312 "MODE AT TAPE END" ☞p.31)

6-3 SPECIAL EFFECTS PLAYBACK

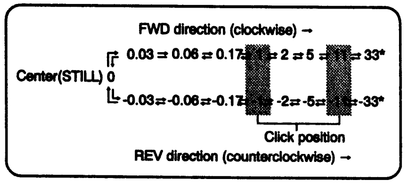


Operation

1 Dial search

Turn the dial while in the Play, Still, Stop, FF, or REW mode. Turn the dial clockwise to search in the forward direction and turn it counterclockwise to search in the reverse direction.

→ Starts search. Search speed varies as shown below (in the Step Slow mode).



To end search: Press either of the PLAY, STOP, FF, REW button.

→ The VCR enters the mode corresponding to the button pressed. The dial remains in the same position.

To re-start search: Turn the dial again.

Maximum search speed

The factory preset maximum search speed is 33X. This can be changed to 17X via Menu switch No.340 "SEARCH SPEED". Set to "X17" to output CTL signals during search for readout on an optional 45-pin controller. (☞p.32)

DIRECT SEARCH setting

At the factory, Menu switch No.301 "DIRECT SEARCH" is preset to "ENABLE". When it is set to "DISABLE", the Search mode can be entered only from the Play and Still modes. (☞p.31)

2 Still/Frame advance

Press the PAUSE/STILL button in Play, Stop, FF, or REW mode.

→ Displays a still picture.

Press the PAUSE/STILL button again.

→ Advances the picture one frame at a time.

To resume normal playback: Press the PLAY button.

Slow motion mode setting

Menu switch No.337 "SLOW MODE"
Setting: "STEP" or "LINEAR"
Factory preset: "STEP"
The mode setting for slow-motion playback.
The factory preset is set to "STEP" for noiseless slow motion. (☞p.32)

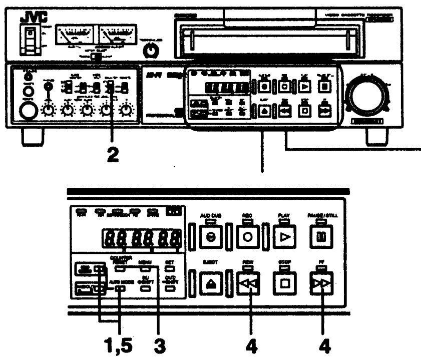
During Slow/Still

The TRACKING control functions for tracking adjustment during step slow motion playback, and for V.LOCK adjustment of a still picture. The TRACKING control has no effect when Menu switch No.337 "SLOW MODE" is set to "LINEAR".

Long Pause function

The Long Pause mode is automatically engaged for tape protection when the Still mode continues for more than 5 minutes.
Long Pause function: The VCR enters the Stop mode. Tape tension is loosened and the drum stops. The On-Screen display indicates STBY-OFF.
To cancel this status: Press any button. The VCR enters the mode corresponding the button pressed.

6-4 COUNTER SEARCH



Operation

1 Engage the Counter Search mode.

Press the AUTO MODE button to light the Counter Search indicator.

2 Select the counter mode.

Set the COUNTER select switch to "CTL" or "TC".

3 Designate the position you wish to locate later.

Press the COUNTER RESET button at the position you wish to locate later.

→ The counter resets to "00:00:00".

4 Start Counter Search.

Press the FF or REW button while in the Stop mode.

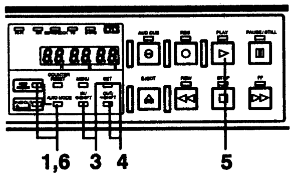
→ Tape will be rewound or fast-forwarded and stop at counter "00:00:00" position.

5 To cancel the Counter Search mode.

Press the AUTO MODE button. The Counter Search indicator goes off.

When the RM-G800U is connected, counter search and repeat playback are not possible.

6-5 REPEAT PLAYBACK



Operation

1 Engage the Repeat mode.

Press the AUTO MODE button to light the Repeat mode indicator.

2 Select the counter mode.

Set the COUNTER select switch to "CTL" or "TC".

3 Enter the repeat-start point.

Press the SET button while pressing the IN/+SHIFT button where you want Repeat playback to start.

→ Start point is entered. When no start point is entered, repeat playback will start from the beginning of the tape.

4 Enter the repeat-end point.

Press the SET button while pressing the OUT/–SHIFT button at the point where you want Repeat playback to end.

→ End point is entered. When no end point is entered, repeat playback will end at the end of the tape.

5 Start repeat playback.

Press the PLAY button.

→ Repeat playback starts between entered start and end points. Press the STOP button to stop repeat playback.

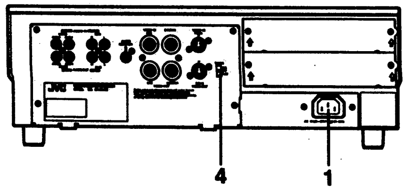
6 To cancel the Repeat mode.

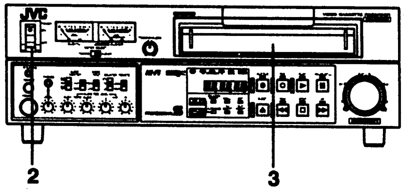
Press the AUTO MODE button. The Repeat mode indicator turns off.

Repeat playback

The repeat playback start or end point is displayed on the counter for as long as the IN/+SHIFT or OUT/–SHIFT button is pressed. If the COUNTER RESET button is pressed while pressing the IN/+SHIFT or OUT/–SHIFT button, the preset repeat start or end point will be reset.

6-6 EXTERNAL TIMER PLAYBACK





Operation

1 **Connect an external timer unit.**
Connect it to the AC IN socket. Turn on the external timer.

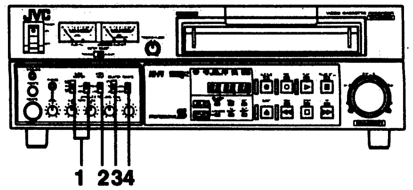
2 **Turns the power on.**
Set the POWER switch to ON.

3 **Load a cassette.**
Insert the cassette into the cassette loading slot.

4 **Engage the timer playback mode.**
Set the TIMER switch to "PLAY".
→ The VCR will automatically start playback when power is supplied from the external timer at the preset time. (The external timer must have been turned off first.)

7 RECORDING

7-1 PREPARATION



Front panel switch setting

1 **AUDIO MONITOR select switches**
Set the AUDIO MONITOR select switches as required. (☞p.11)

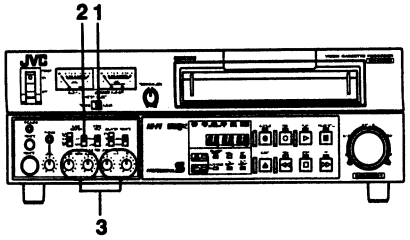
2 **VIDEO INPUT select switch**
Select the input video signal to be recorded with the VIDEO INPUT switch. (☞p.11)

3 **COUNTER select switch**
Set the COUNTER switch as required. (☞p.12)

4 **REMOTE switch**
Set the REMOTE switch as required. (☞p.12)

For BR-S500E users
Section 7 describes recording and editing with the BR-S800E. As the BR-S500E is a player, you can skip these sections and go to section 10, p.51.

7-1 PREPARATION



Menu switch setting

Set the following items as required.

●SERVO

Frame Servo setting:
No.000 "FRAME SERVO" p.28
Factory preset: "4FIELD"

Auto H-Phase setting:
No.004 "AUTO H. PHASE" p.30
Factory preset: ON

Reference sync signal setting:
No.003 "SYNC SELECT" p.28
Factory preset: "AUTO"

●VIDEO

VHS recording with S-VHS tapes:
No.100 "S-VHS SELECT" p.28
Factory preset: "AUTO"

The type of picture:
No.101 "EDIT SELECT" p.28
Factory preset: "OFF"

●AUDIO

Hi-Fi audio recording:
No.200 "HI-FI AUDIO REC" p.29
Factory preset: "ON"

Dolby NR for normal audio:
No.201 "NORM. AUDIO DOLBY NR" p.29
Factory preset: "ON"

Audio limiter for normal audio:
No.202 "AUDIO LIMITER" p.29
Factory preset: "ON"

Mixed audio recording on audio-1 track:
No.205 "AUD-1 REC." p.29
Factory preset: "AUD-1"

Hi-Fi audio recording on normal audio tracks:
No.207 "AUDIO INPUT SELECT" p.30
Factory preset: "SEP"

Audio recording level adjustment

1 **Switch the AUD-2/R meter for level indication.**
Set the METER SELECT switch to "AUD-2/R".

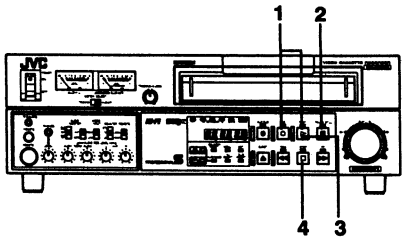
2 **Select indication mode.**
Set the AUDIO MONITOR switch to "HI-FI".
→ Hi-Fi audio level is displayed.
Set the AUDIO MONITOR switch to "NORMAL"
→ Normal audio level is displayed.

3 **Adjust the level.**
Adjust the audio level with the AUDIO REC LEVEL control corresponding to the signal selected with the AUDIO MONITOR switch.
→ Turn the control until the meters deflect to "0" at peak signal level.

When engaging the Record mode directly from the Play mode, set Menu switch No.003 "SYNC SELECT" to "VIDEO". This can help reduce picture distortion at the record-start point.

☞ p.56 GLOSSARY: Frame servo, Auto H-phase, Dolby NR, Audio limiter

7-2 BASIC PROCEDURE



Operation

1 Start recording
○ Press the PLAY button while pressing the REC button.
▷ → Both the REC and PLAY indicators light and recording will start.

2 Temporarily stop recording.
⏸ Press the PAUSE/STILL button.
→ The PAUSE/STILL indicator lights and recording is paused.

3 Re-start recording.
▷ Press the PLAY button.
→ The PAUSE/STILL indicator turns off and recording is re-started.

Auto Back Space Editing
Auto back space editing function: This function helps prevent picture distortion at edit points in recording.
System: When the PAUSE/STILL button is pressed during recording, the tape rewinds by about 3 seconds and stops in the Record-Pause mode. When recording is re-started by pressing the PLAY button, recording does not take place for about 3 seconds (the input signal is output to the monitor and the operation mode display on the monitor screen blinks for this period.) and re-starts at the position where the PAUSE/STILL button was pressed. The operation mode display on the monitor screen stops blinking.
Setting: Menu switch No.302 "AUTO REC. PREROLL" (☞p.31)
Factory preset: "ON"
When set to "OFF", response time for mode switching (Record—Record-Pause—Record) will be faster, however picture will be distorted at edit points.

4 Stop recording.
□ Press the STOP button.
→ The REC and PLAY indicators turn off and recording will stop.

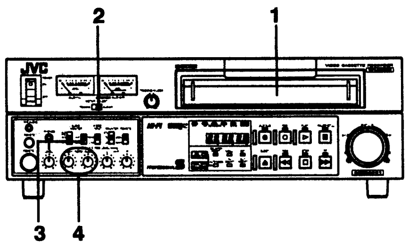
CTL time code recording
- CTL time code is automatically recorded on the CTL track whenever recording is executed immediately after the tape has been rewound to the beginning.
- In this case, the time code is recorded from the value "00H 00M 00S" and the user bits are recorded as "00 00".
- If recording is stopped or paused, CTL time code recording will not restart when recording is restarted.

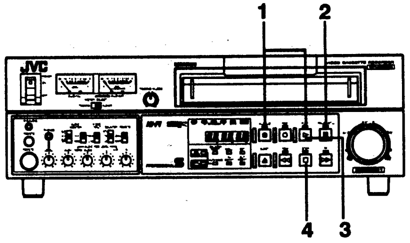
VHS recording with an S-VHS tape
Set Menu switch No.100 "S-VHS SELECT" to "VHS". (☞p.28)

Long Pause function
To protect the tape, the Long Pause function is automatically engaged when the Record-Pause mode continues for more than 5 minutes.
Long Pause function: The VCR enters the Stop mode. Tape tension is loosened and the drum stops. The operation mode display on the monitor screen changes to "STBY-OFF".
To cancel this status: Press any button. The VCR enters the mode corresponding to the button pressed.

If PLAY is pressed during recording:
Recording is canceled and playback starts.

7-3 AUDIO DUBBING





Preparation

Menu switch setting

Soundtrack selection: (☞p.29)

Menu switch No.208 "AUD DUB SELECT"
Factory preset: "AUD-2"

Audio dubbing is possible on either the audio-1 track or both audio-1 and audio-2 tracks.

When dubbing on audio-2 track, set Menu switch No.206 "LTC SELECT" to "AUD-2" (factory preset).

1 Load a cassette.
Insert a cassette with safety tab in place into the cassette loading slot.

2 Switch the AUD-2/R meter for level indication.

METER SELECT
TRACKING
AUD-2/R
Set the METER SELECT switch to "AUD-2/R".

3 Select indication mode for normal audio.

AUDIO MONITOR
AUD-1/L
MIX
AUD-2/R
HI-FI
NORM
Set the AUDIO MONITOR switch to "NORMAL".

4 Adjust the level.
Adjust the audio level with NORMAL AUDIO LEVEL NORM control.
→ Turn the control until the meters deflect to "0" at peak signal level.

Procedure

1 Engage audio dubbing.
⊖ Press the PLAY button while pressing the AUD DUB button in the Play or Still mode.
▷ → Both the AUD DUB and PLAY indicators light and audio dubbing starts.

2 Temporarily stop audio dubbing.
⏸ Press the PAUSE/STILL button.
→ The PAUSE/STILL indicator lights and audio dubbing is paused.

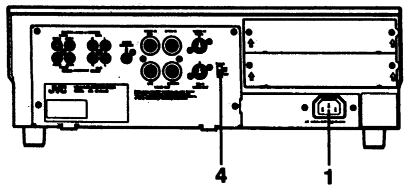
3 Re-start audio dubbing.
▷ Press the PLAY button.
→ The PAUSE/STILL indicator turns off and audio dubbing is re-started.
Some noise bars may appear in the still picture or the picture may roll up and down at this time. This increases switching precision and is not a malfunction.

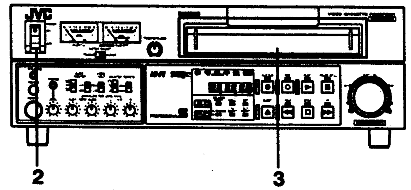
4 Stop audio dubbing.
□ Press the STOP button.
→ The AUD DUB and PLAY indicators turn off and tape stops.

Auto Back Space Editing Function
As with the Record mode, this function is also available in the Audio Dubbing mode.
Setting: Menu switch No.302 "AUTO REC. PREROLL" (☞p.31)
Factory preset: "ON"
When set to "OFF", response time for mode switching (Record—Record-Pause—Record) will be faster, however sound will be distorted at edit points.

If PLAY is pressed during audio dubbing:
Audio dubbing is canceled and playback starts.

7-4 EXTERNAL TIMER RECORDING





Operation

1 **Connect an external timer.**
Connect it to the AC IN socket. Turn on the external timer.

2 **Turn the power on.**
Set the POWER switch to ON.

3 **Load a cassette.**
Insert a cassette with safety tab in place into the cassette loading slot.

4 **Engages the timer recording mode.**
- Set the TIMER switch to "REC". (Leave the VCR in the Stop mode. Do not press any other button such as PLAY or REC.)
- Make necessary settings on the external timer.

→ The VCR will automatically start recording when power is supplied from the external timer at the preset time. (The external timer must have been turned off first.)

7-5 REPEAT RECORDING

Operation

1 **Engage the Repeat mode.**
Set Menu switch No.305 "REPEAT REC." to "ENABLE". (☞p.31)

2 **Start repeat recording.**
Start recording referring to the procedure described in the "RECORDING — BASIC PROCEDURE". (☞p.40)
→ Repeat recording starts.
→ The VCR will automatically rewind the tape at the tape end start recording again from the beginning of the tape.

8 EDITING WITH RM-G800U (option)

8-1 EDITING CONTROLLER

In combination with an optional editing controller, the BR-S800E can be used in an automatic video/audio editing system. Connectable controllers are listed below.

Editing controller RM-G800U

This controller is designed exclusively for the BR-S800E.
- One player and one recorder can be connected.
- CTL time code setting is possible.
- Can be connected to the BR-S800E without any interface board.

Editing controller RM-G860E

This controller is designed for use with most professional VCRs.
- Two players and one recorder can be connected.
- CTL time code setting is not possible.
- To connect to the BR-S800E, the optional SA-K26E RS-422 interface board or the optional SA-K28EA 45-pin interface board is necessary.

Editing controller RM-G870E

This controller is designed for use with most professional VCRs.
- Can store data for up to 127 edit events.
- Two players and one recorder can be connected.
- CTL time code setting is possible.
- To connect to the BR-S800E, the optional SA-K26E RS-422 interface board is necessary.

Editing controller RM-G810U/RM-G86U

This controller is designed for use with most professional VCRs.
- One player and one recorder can be connected.
- CTL time code setting is not possible.
- To connect to the BR-S800E, the optional SA-K28EA 45-pin interface board is necessary.

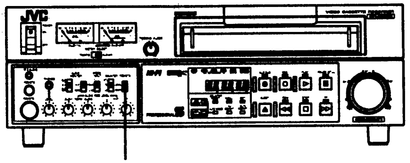
This manual explains editing procedures using the RM-G800U. For procedures using other controllers, refer to the instructions supplied with the controller.

Editing System
To configure an editing system, it is necessary to have a playback VCR (such as the BR-S500E), a recording VCR (such as BR-S800E), and an editing controller.

8-2 PREPARATION

1 **Connect necessary components correctly.**
(See "CONNECTIONS" ☞p.20)

2 **Make necessary settings on connected units.**



REMOTE switch

- For Player VCR (BR-S800E or BR-S500E)
Set the REMOTE switch to REMOTE.
→ See p.34 for other settings.

- For Recorder VCR (BR-S800E)
Set the REMOTE switch to REMOTE.
→ See p.38 for other settings.

- For RM-G800U
Set menu settings as desired while referring to the monitor (connected to the recorder VCR's VIDEO OUT MONITOR connector). Refer to the RM-G800U's instruction manual for details.

NOTE
When using the CTL time code setting with the BR-S800E/BR-S500E's colour frame servo set to ON and capstan bump set to ON, set "PREROLL TIME" to 10 seconds (or more) with the editing controller.

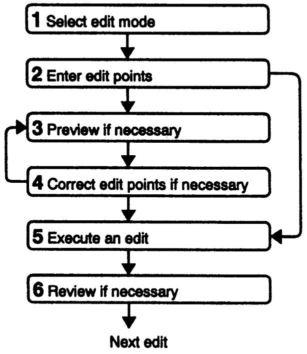
Slow motion mode setting
Menu switch No.337 "SLOW MODE"
Setting: "STEP" or "LINEAR"
Factory preset: "STEP"
The mode setting for slow-motion playback. The factory preset is set to "STEP" for noiseless slow motion. For editing, we recommend that you set the slow-motion mode to "LINEAR" for the following reasons.
1: Though noise appears during slow-motion playback, it is easier to identify the transition point of frames.
2: Normal audio can be output during slow-motion playback. (☞p.32)

☞ p.56 GLOSSARY: CTL time code

8-3 PROCEDURE

Operating flowchart

Editing procedures can be summarised as follows:



1 Select edit mode
Select either assemble editing or insert editing

2 Enter edit points
Enter both edit-in and -out points.

3 Preview if necessary
Perform "rehearsal" editing to confirm that the entered edit-in and -out points are appropriate. This is referred to as "Preview".

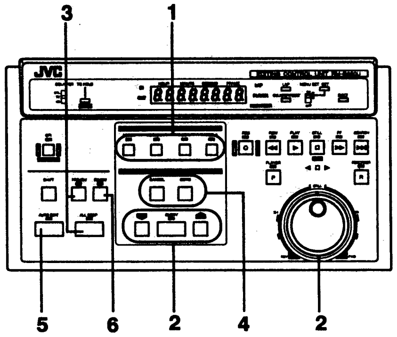
4 Correct edit points if necessary
Entered edit points can be corrected.

5 Execute an edit
After entering edit points, perform editing. This is referred to as "Executing an edit".

6 Review if necessary
After executing an edit, you may want to rewind and check the quality of the transition between edit points. This is referred to as "Review".

Proceed with editing by repeating the procedures

Procedure



1 Select edit mode.

ASSEM ☐ To perform assemble editing, press ASSEM.

VIDEO/Hi-Fi ☐ To perform insert editing, select the track you're going to replace by pressing either VIDEO/Hi-Fi or AUD-1 or AUD-2.

AUD-1 ☐ AUD-2 ☐ VIDEO/Hi-Fi: Prerecorded video and Hi-Fi audio track is replaced by new material.
AUD-1: Prerecorded normal audio-1 track is replaced by new material.
AUD-2: Prerecorded normal audio-2 track is replaced by new material.

2 Enter edit points.
Set edit-in point for each VCR (Player/Recorder) and set edit-out point for either Player or Recorder.

PLAYER P RECORDER R Press "P" to set data for Player and press "R" to set data for Recorder.
Locate desired edit point using JOG/SHUTTLE controls.

ENTRY ☐ To enter edit-in point, press ENTRY while pressing IN.

To enter edit-out point, press ENTRY while pressing OUT.

8-3 PROCEDURE

3 Preview if necessary.

PREVIEW ☐ Press the PREVIEW button to check transition between edit points before executing an actual editing.
→ The Recorder and Player start to run as they would in actual editing, and then enter the Still mode.

ALL STOP ☐ To quit during preview editing, press the ALL STOP button.

4 Correct edit points if necessary.
Entering a new edit point automatically cancels the previous edit point.

To confirm the picture at the edit point: Press the GOTO ☐ GOTO button while pressing the IN or OUT button.
→ The VCR accesses the designated edit point and enters the Still mode.

To cancel an edit point without entering a new one:
CANCEL ☐ Press the CANCEL button while pressing the IN or OUT button.

To correct edit points more precisely: Turn the JOG dial while pressing the IN or OUT button.

5 Execute the edit.

AUTO EDIT ☐ Press the AUTO EDIT button.
→ Automatic editing is executed.

6 Review if necessary.

REVIEW ☐ Before you enter new edit points for next edit, press REVIEW.
→ Recorder automatically plays back the last executed.

For details about editing using the RM-G800U, refer to the RM-G800U's instruction manual.

Though a picture may be distorted on the monitor at the edit-in or -out point while in the preview or automatic editing modes, the actual transition is not affected and edited pictures will be normal.

VCR operation during editing

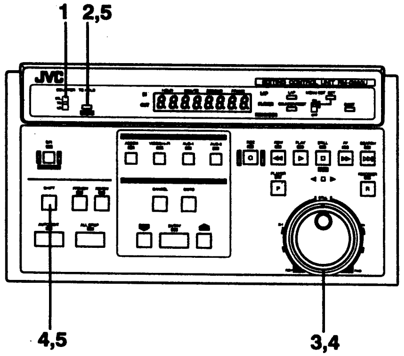
1. Both Feeder and Recorder preroll.
2. Both Feeder and Recorder start playback.
3. Recorder's mode changes to Record at the edit-in point.
4. Ends editing at the edit-out point.
   In assemble editing: Recorder keeps recording after the edit-out point for about 2 seconds.
   In insert editing: Recorder's mode switches to playback and runs for about 2 seconds.
5. Both Feeder and Recorder return to the edit-out point and enter the Still mode. (If RM-G800U Menu item #01 "OUT POINT RETURN" is set to "00".)

To stop editing while editing is in progress:
Press ALL STOP. Editing stops at the point where the button is pressed.

8-4 TIME CODE SETTING

Preparation

- To use VITC or LTC time codes, you must first install the optional time code generator/reader SA-R50E.
- Optional boards are not required when using CTL time codes.
- Put the Recorder in the Stop mode.



NOTE:

- When recording data preset with CTL time code, execute assemble editing or time code insert, or engage the REC mode after tape-begin has been detected.

Procedure

1 Select time code or user bits to be set.

COUNTER Set the COUNTER switch of both Recorder and the RM-G800U to either TC or UB as desired.
TC: To set time code.
UB: To set user bits.

2 Set the time code/user bits setting mode.

TC HOLD Press the TC HOLD button.
→ The leftmost digit on the counter will start blinking.

3 Enter the value for blinking digit.

Turn the JOG dial.
→ The value of the blinking digit changes. Set as desired.

4 Move to another digit.

SHIFT Press the SHIFT button.
→ Blinking digit moves to right each time the button is pressed.

Repeat steps 3 — 4 until all data is set.

5 Transfer entered data.

SHIFT TC HOLD Press the TC HOLD button while pressing the SHIFT button.
→ Entered data is transferred to the Recorder.
→ Counter stops blinking.

Checking of time code data transferred to the recorder

Press the REC button while the VCR is in the Stop or Still mode, or when no cassette is inserted.
→ Preset data is displayed on the counter.

CTL time code user bits setting

CTL time code user bits are defined by 4 digits. The last 4 digits ("SECOND" and "FRAME") are used for CTL time code user bits. Although you can set values for "HOUR" and "MINUTE",those values will no longer be effective when transferred.

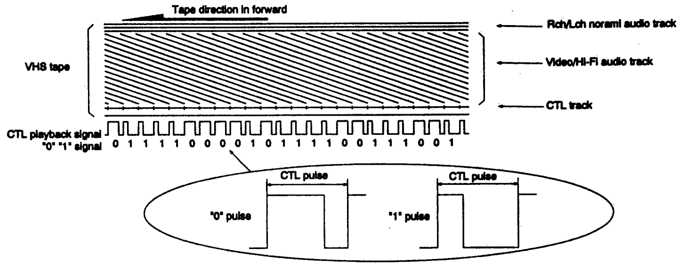
After transferring the CTL time codes, you can delete recording based on the preset CTL time code data by switching the COUNTER switch to "CTL" then back to "TC".

☞ p.56 GLOSSARY: VITC, LTC, CTL time code, User bits

9 CTL TIME CODE

9-1 What Is CTL Time Code?

CTL time code is based on CTL signals. By modulating the duty proportion of CTL signals, "0" and "1" signals (bits) are generated. These signals are used to denote time data and user bits data. One item of data is made up of one 2-second CTL signal containing 50 bits. Time data is indicated by 6-digit time information (hours, minutes, seconds) and user bits data is indicated by 4-digit hexadecimal values(0-9,A-F). Each item of CTL time code data is generated every 2 seconds. Frame addresses in between are interpolated with the CTL pulse. This makes it possible to denote the time code with frame-units accuracy. Thus, frame-accurate editing and cue-up are possible using the CTL time code system.



9-2 CTL Time Code Recording

- While CTL time code recording is in progress, the interpolation mark "✳" on the monitor screen turns off.

To record with the time code data "00:00:00:00" from the beginning of a tape.

- This can be done with either the BR-S800E or RM-G800U.

(1) Set the BR-S800E's REMOTE switch.
- When controlling operations with the BR-S800E: Set to "LOCAL".
- When controlling operations with the RM-G800U: Set to "REMOTE".

(2) Set the COUNTER switch to "TC" or "UB".

(3) Rewind the tape to the beginning.

(4) Press the PLAY button while pressing the REC button to start recording.
→ Time code data is recorded from the value "00:00:00:00".
→ User bits data is recorded as "0000".

NOTE:

- Do not engage the Record mode until tape-begin has been detected. CTL time code recording is not possible from any point part way through the tape.
- If the Record-Pause or Stop mode is engaged during recording, CTL time code and user bits data will no longer be recorded.

To record time code that follows after existing CTL time code data on the tape.

- This can be done with either the BR-S800E or RM-G800U.

(1) Select the BR-S800E's REMOTE switch as desired.

(2) Set the COUNTER switch to "TC" and start playback.
 - Make sure that the interpolation mark "✳" turns off on the monitor screen during playback.

(3) Engage the Record mode directly from the Play mode by pressing the REC and PLAY buttons together.
 → Time code data is recorded following from the existing data.
 → User bits data remains the same.

9-3 Assemble Editing/Time Code Insertion

CTL time code assemble editing or time code insert must be done with the RM-G800U.

■ Set the BR-S800E's REMOTE switch to "REMOTE".
■ Set the RM-G800U's Menu switch No.00 "PREROLL TIME" to "5 SECONDS" or longer.
Set "PREROLL TIME" to 10 seconds (or more) when the colour frame servo and capstan bump are set to ON.
■ When editing from the beginning of the tape, first run the tape for a period longer than the preroll time before executing the edit.

To edit with time codes that follow the existing CTL time code data.

("Regen" mode)

(1) Set the COUNTER switch to "TC" and start playback. Check that the interpolation mark "✳" turns off on the monitor screen.

(2) Execute assemble editing or time code insert.
 - For editing procedures, refer to the RM-G800U's instruction manual, sections 6-2 and 6-4.
 → Time code data is recorded following after the existing time code data.
 → User bits data remains the same.

 CTL time code insertion
 - To set the CTL time code insert mode, press the AUD-2 button while pressing the SHIFT button.
 - To start insertion, press the AUTO EDIT button. Press the ALL STOP button to stop insertion.

To record with preset time code data.

(1) Preset the time code data.
 - For setting procedures, refer to page 46.

(2) Execute assemble editing or the time code insert.
 → Time code data is recorded starting with the preset value.
 → User bits data is recorded as preset.

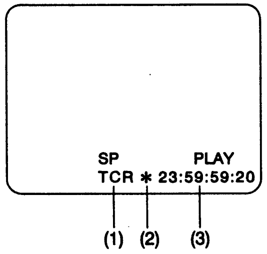
NOTE:
When only time code data has been preset, the user bits data is determined as the value in the Regen mode for recording (or vice versa).

9-4 Time Code Playback

CTL time code can be played back with either the BR-S800E/BR-S500E or the RM-G800U.

- Set the COUNTER switch to "TC" or "UB" and start playback.
 TC: Time code playback.
 UB: User bits playback.
- Possible playback speed: X1 to X11 for both forward and reverse search.
- Interpolation mode
 If there is an error in the CTL time code readout during playback, time code is interpolated with the control signals. In this case, the interpolation mark "✳" is displayed on the monitor screen.
 The interpolation mark "✳" is not displayed in the following cases.
 - When time data is being read every 2 seconds and frames in between are interpolated with CTL signals.
 - When a loss of data is only one item (2 seconds) during continuous time codes.

9-5 On-Screen Display



(1) CTL time code counter mode
 Displayed in recording or playback.
 TCR: CTL time code reader data
 UBR: CTL time code user bits reader data

 Displayed only when checking preset data.
 TCG: CTL time code generator data
 UBG: CTL time code user bits generator data

(2) Interpolation mark
 During playback → "✳" is displayed in the interpolation mode.
 During recording → No display during time code recording.

(3) Counter display

Time data:	24-hour mode, 8-digit display (Hours, Minutes, Seconds, Frames)
User bits data:	4-digit display with hexadecimal numbers. It is only possible to set the last 4 digits of the 8 digits user bits.

9-6 Menu Switches

When the optional VITC/LTC generator/reader SA-R50E is installed, set the Menu switch No.418 of the BR-S800E/BR-S500E to select the type of time code either VITC/LTC or CTL TC.

Menu switch No.418 "VITC/LTC, CTL TC
 CTL TC (1) — Selects CTL TC.
● VITC/LTC (0) — Selects VITC/LTC.

●: Factory preset

9-7 Special Notes

(1) **CTL time code Recording/Playback is not possible in less than 6 seconds.**
Because each CTL time code data item is formed in 2 seconds, it is necessary to run the tape for more than 6 seconds to readout the data. When playing back a tape for less than 6 seconds, or a when playing a tape on which CTL time code has been recorded for less than 6 seconds, correct data readout is not possible.

(2) **Bit loss at the edit points**
When assemble editing/time code insertion has been executed, information in the vicinity of the 8th bit will be lost. However, time information between edits is not interrupted.

(3) **A tape with discontinuous time codes may not edit or cue up correctly.**
If there is any discontinuity in recorded time codes, a malfunction may occur in editing or cue-up. When a tape contains such time codes, insert continuous time codes before using it.

(4) **Preroll time must not be less than 5 seconds.**
When preroll time is set to less than 5 seconds in the Regen mode, editing may be executed before reading of the recorded time codes has been completed. In this case, the Regen mode won't work correctly.

(5) **Editing from the beginning of a tape**
When editing from the beginning of a tape, be sure to run the tape for long enough to allow the time code to be read correctly.

(6) **User bits data that should not be used.**
If any of the following combinations of characters are used for user bits, errors may occur in data reading.

0FF8, 0FF9, 0FFA, 0FFB
1FF0, 1FF1, 1FF2, 1FF3, 1FF4, 1FF5, 1FF6, 1FF7
2FF8, 2FF9, 2FFA, 2FFB
3FE∗
4FF8, 4FF9, 4FFA, 4FFB
5FF0, 5FF1, 5FF2, 5FF3, 5FF4, 5FF5, 5FF6, 5FF7
6FF8, 6FF9, 6FFA, 6FFB
7FC∗, 7FD∗
8FF8, 8FF9, 8FFA, 8FFB
9FF0, 9FF1, 9FF2, 9FF3, 9FF4, 9FF5, 9FF6, 9FF7
AFF8, AFF9, AFFA, AFFB
BFE∗
CFF8, CFF9, CFFA, CFFB
DFF0, DFF1, DFF2, DFF3, DFF4, DFF5, DFF6, DFF7
EFF8, EFF9, EFFA, EFFB
∗3FE, ∗7FC, ∗7FD, ∗BFE

192 variations in total. ∗: Any value of hexadecimal numbers.

(7) CTL time code may not be recorded correctly in the assemble editing/time code insertion modes if edit duration has been set to less than 6 seconds. In this case, after all edit procedures have completed, execute the CTL time code insertion again from the beginning.

10 IN CASE OF DIFFICULTY

10-1 WARNING DISPLAY

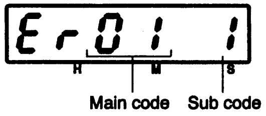
Warning displays

Various warning displays are available to indicate malfunctions. Warnings are shown by numerical codes on the counter and worded messages on the monitor screen.

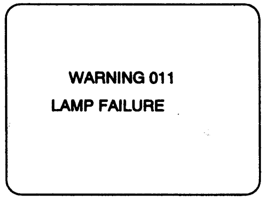
A warning code consists of a 2-digit main code which indicates the general content of the warning and 1-digit sub code which indicates the specific nature of the problem.

Measure: When the warning display appears, take appropriate action as described below. If the problem persists, consult your local JVC dealer.

Warning display on the counter



Warning display on screen


WARNING 011
LAMP FAILURE

Warning codes

WARNING CODE: 011
On-screen: LAMP FAILURE

Symptom: Tape-begin/end sensor LED burns out.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: 021
On-screen: CONDENSATION ON DRUM

Symptom: Moisture condensation on drum.
Operation: 1. The cassette is ejected.
2. Drum starts rotating and cassettes cannot be loaded.
3. After condensation has been eliminated, the display goes off and cassettes can be loaded.
Solution: Wait until the displays turn off. Do not turn off the power.

WARNING CODE: 081
On-screen: SUP TENSION FAILURE

Symptom: Abnormal tape tension.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: IEO
On-screen: LP INVALID ERROR

Symptom: LP-recorded tape is inserted.
Operation: The Stop mode is engaged. All controls are operative.
Solution: Insert an SP-recorded tape.

WARNING CODE: 321
On-screen: FAILURE IN LOADING

Symptom: Tape cannot load correctly.
Operation: Tape unloads and the cassette is ejected.
Solution: Insert the cassette again or try another cassette.

WARNING CODE: 331
On-screen: FAILURE IN UNLOADING

Symptom: Tape cannot unload.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

10-1 WARNING DISPLAY

Warning codes

WARNING CODE: 411
On-screen: CASSETTE EJECT FAILURE

Symptom: Cassette carriage does not lift.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: 561 — 567
On-screen: TAPE DEFECTIVE

Symptom: Tape is broken.
Operation: The cassette is ejected.
Solution: If there is nothing wrong with the cassette, insert it again. Otherwise, insert another cassette.

WARNING CODE: 571 — 572
On-screen: END LEADER DETECTION

Symptom: Tape-end sensor works abnormally.
Operation: 1. Rewind mode is engaged.
2. If the leader tape is detected within 3 seconds, the cassette is ejected.
Solution: Insert the cassette again.

WARNING CODE: 581 — 582
On-screen: BEGIN LEADER DETECTION

Symptom: Tape-beginning sensor works abnormally.
Operation: 1. FF mode is engaged.
2. If the leader tape is detected within 3 seconds, the cassette is ejected.
Solution: Insert the cassette again.

WARNING CODE: 701
On-screen: DRUM MOTOR FAILURE

Symptom: Abnormal drum servo.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: 711
On-screen: CAPSTAN MOTOR FAILURE

Symptom: Abnormal capstan servo
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: 721 — 726
On-screen: SUP REEL MOTOR FAILURE

Symptom: Supply reel rotates abnormally.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

WARNING CODE: 731 — 735
On-screen: TU REEL MOTOR FAILURE

Symptom: Take-up reel rotates abnormally.
Operation: The VCR stops and all controls become inoperative.
Solution: Turn the power off and then turn on again.

When Menu switch No.343 "SUB WARNING INHIBIT" is set to "ON", the following warning codes are not available for display.

Warning code 321	"FAILURE IN LOADING"
Warning code 561 – 567	"TAPE DEFECTIVE"
Warning code 571 – 572	"END LEADER DETECTION"
Warning code 581 – 582	"BEGIN LEADER DETECTION"

10-2 TROUBLESHOOTING OTHER PROBLEMS

VIDEO PROBLEMS

Symptom: Playback picture is unstable.
Cause: Reference sync signal is set to VIDEO and the input video signal is unstable or noisy.
Solution: Take either of the following measures.
1. Set Menu switch No.003 "SYNC SELECT" to "INTERNAL". (☞p.28)
2. Set Menu switch No.003 "SYNC SELECT" to "EXTERNAL" and input an external sync signal. (☞p.28)
3. Disconnect the input video signal.

Symptom: Playback picture is blurred or interrupted.
Cause: Tracking is not adjusted correctly.
Solution: Adjust the tracking.

Cause: Video heads may be dirty.
Solution: Head cleaning is necessary. Consult your local JVC dealer.

Symptom: Picture is distorted at the switching point of recording.
Cause: Random-interlaced video signal or low S/N video signal (after repeated dubbing) has been recorded.
Solution: Set Menu switch No.000 "FRAME SERVO" to "OFF". (☞p.28)

Cause: Auto H-Phase is set to OFF.
Solution: Set Menu switch No.004 "AUTO H. PHASE" to "ON" (☞p.30)

Symptom: On-screen display is not available.
Cause: Monitor is not connected to the VIDEO OUT MONITOR connector.
Solution: Connect to VIDEO OUT MONITOR.

Cause: Menu switch No.500 "ON SCREEN DISPLAY" is set to "OFF".
Solution: Set it to "ON". (☞p.29)

Symptom: S-VHS recording is not possible.
Casue: A VHS tape is being used.
Solution: Use an S-VHS tape.

Cause: Menu switch No.100 "S-VHS SELECT" is set to "VHS".
Solution: Set it to "AUTO". (☞p.28)

AUDIO PROBLEMS

Symptom: No audio is output during playback.
Cause: Soundtrack selection is not correct.
Solution: Set the AUDIO MONITOR switch to check on which track the audio signal is recorded. (☞p.11)

Cause: Menu switch No.206 "AUD-2/LTC" is set to "LTC", and normal audio is not output from the AUD-2 track.
Solution: Set the switch to "AUD-2".

Symptom: Breaks in Hi-Fi audio during playback.
Cause: Tracking is not adjusted correctly.
Solution: Adjust the tracking. (☞p.35)

Symptom: Hi-Fi audio is not output during playback.
Cause: Menu switch No.203 "AUDIO OUT SELECT" is set to "NORM".
Solution: Set it to "SEP". (☞p.30)

Symptom: Hi-Fi audio is not output during search.
Cause: This is normal, not a malfunction.
Solution: To output normal audio from AUDIO OUT Hi-Fi during search, set Menu switch No.204 "Hi-Fi OUT AT SEARCH" to "NORM". (☞p.30)

Symptom: Normal audio is not output during search.
Cause: Menu switch No.337 "SLOW MODE" is set to "STEP".
Solution: Set it to "LINEAR". (☞p.32)

RECORDING PROBLEMS

Symptom: Recording is not possible.
Cause: Cassette's safety tab has been removed.
Solution: Reseal the slot with adhesive tape. (☞p.5)

Cause: Menu switch No.304 "RECORDING INHIBIT" is set to "ON".
Solution: Set it to "OFF". (☞p.31)

Reference pages
Menu switch setting........................p.25

10-2 TROUBLESHOOTING OTHER PROBLEMS

OPERATION PROBLEMS

Symptom: Control buttons are inoperative.
Cause: The REMOTE switch is set to REMOTE.
Solution: Set it to LOCAL. (☞p.12)

Cause: Menu switch No.002 "OPERATION LOCK" is set to "ON".
Solution: Set it to "OFF". (☞p.28)

COUNTER DISPLAY PROBLEMS

Symptom: Time counter does not run.
Cause: Time counting is based on the recorded CTL signals. The counter does not function with non-recorded segments.

Cause: The Menu switch setting mode is engaged.
Action: Press the MENU button to engage the time counter mode. (☞p.9)

Cause: The time counter of an optional remote control connected via 45-pin remote will not run at search speeds higher than X17
Action: Set Menu switches No.319 "TAPE MAX SPEED" and No.340 "SEARCH SPEED" to "X17". (☞p.32)

REPEAT PLAYBACK PROBLEMS

Symptom: Repeat start and end point cannot be set.
Cause: A different counter mode has been used to set the start and end points.
Action: Use the same counter mode (CTL or TC) for both points. (☞p.37)

Symptom: Repeat playback is not possible.
Cause: A different counter mode has been used for start/end point entry than that used for playback.
Action: Use the same counter mode for both. (☞p.37)

EDIT TIMING PROBLEMS

Symptom: There is a discrepancy between the recorder's edit point and the edit controller's.
Cause: Recorder/edit controller edit timing has not been correctly adjusted.
Solution: Refer to p.21 and set the edit timing correctly.

Reference pages
Menu switch setting........................p.25

11 OPTIONAL ACCESSORIES

Rack mount adapter SA-K65U

Required when installing the BR-S800E/BR-S500E in a 19" EIA-standard rack.

Rails and brackets

For rack installation, slide rails and brackets are required in addition to the SA-K65U. We recommend the following parts.

Accuride C-305-20 (Slide rail)
BK5355 (Bracket)

Installation

1 Attach the SA-K65U rack mount adapter to the VCR with six M4 screws.

2 Attach the inner members of the slide rails to the VCR with the six M4 screws.

3 Attach the outer members of the slide rails to the rack with the front and rear brackets.

4 Pull out the outer members of the slide rails until they stop.

5 Fix the inner members of the slide rails attached to the VCR into the rails of outer members, and insert the VCR into the rack. Insertion may be obstructed where the springs are located. Press both sides' springs and insert the VCR fully to the end.

ATTENTION:

Do not use screws more than 8 mm long, otherwise you may damage the VCR's internal circuitry.

The rack mount adapter handle is only for sliding the unit. Do not carry the unit by the handle.

Special instructions for installation of slide rails may be necessary depending the rack used. For details, consult authorized personnel at the shop where you purchased the equipment.

45-pin interface board SA-K28EA

This interface board permits control of this unit via 45-pin remote.
With this board installed in the rear panel expansion slot, the following remote controls can be used.

RM-86U
RM-G810U
RM-G860E
RM-G80U

When using RM-86U:
Set Menu switches No.330 "VIDEO EDIT DELAY" and No.331 "AUDIO EDIT DELAY" to "4 FRAMES". (☞p.32)
Set Menu switches No.319 "TAPE MAX SPEED" and No.340 "SEARCH SPEED" to "X17". (☞p.31 and p.32)

NOTES:
- SA-K28E cannot be used. Use SA-K28EA.
- When editing with a 45-pin remote via this board, be sure that the settings for Menu switch No. 337 "SLOW MODE" are the same for both the player and recorder.

RS-232C interface board SA-K27EA

This interface board permits control of the unit via RS-232C remote.
An RS-232C cable is also necessary. The SA-K27EA's RS-232C connector type is D-sub 9-pin. Use "reverse-type (cross-type)" RS-232C cable.

NOTE:
SA-K27E cannot be used. Use SA-K27EA.

Digital noise reduction board SA-N50E

This board minimizes the video signal noise generated by repeated dubbing. In addition, it stabilizes video signal time base errors (jitters).

Time code generator/reader board SA-R50E

EBU-standard time code (LTC, VITC, user bits) recording and playback are possible with this board installed.
To install the SA-R50E, an adapter board SA-K50U is necessary.
To install the SA-R50E on the SA-K26E RS-422 board, no adapter board is necessary.

RS-422 interface board SA-K26E

This interface board permits control of the unit via RS-422 remote.
With the SA-R50E installed in this board, LTC/VITC editing is possible via RS-422 9-pin remote.

Wired remote control RM-G30U

Controls all basic VCR operations. Cable length is 2 m.

Y/C cables

A variety of Y/C cables are available.

Model	Connected units' connector type Output	 Input	Length
VC-G30U	4-pin	4-pin	3 m
VC-G50U	4-pin	4-pin	5 m
VC-G3030U	4-pin	7-pin	3 m
VC-G2030U	7-pin	4-pin	3 m
VC-G2050U	7-pin	4-pin	5 m

Extension remote cable VC-G8030U

Extension cable for RM-G800U. Cable length is 3 m.

For details regarding installation or removal of optional boards, consult your local JVC dealer.

12 APPENDIX

12-1 GLOSSARY

Advanced sync
Advanced sync is a sync signal supplied by the TBC which compensates for the playback signal's time lag against the reference sync signal. A signal is advanced to the reference sync signal level and then input to the TBC. By locking the playback signal to this advanced sync signal, a stable video signal synchronized with the reference sync signal can be output.

Assemble editing
The most basic editing technique, assemble editing replaces the CTL signal, video signal, and audio signal simultaneously. If material is already recorded on the tape, it is erased using the full-erase heads and there may be some picture distortion for several seconds after the last edit-out point.

Audio limiter
A circuit (or a device) which automatically regulates audio signal intensity to maintain a certain level. This can prevent sound distortion due to over-level recording but is not effective with extremely high level signals where distortion may be caused at the amplifier stage.

Auto H-Phase
This circuit minimizes phase differences in the video signal which may occur at edit transitions by matching the horizontal phase of the reference sync signal (external or input video) with that of the playback video signal.

Colour Frame Servo
The Colour Frame Servo is a circuit specifically designed to prevent colour flashing during editing with PAL-system video editing recorders and players. Since the phase of the colour subcarrier wave of PAL-system colour difference signals is reversed with each scanning line, colour flashing may occur at edit points if the continuity of this phase change is not maintained. To prevent this, the colour frame servo synchronizes the colour framing of the input video signal with that of the reproduced video signal.

CTL
This is an abbreviation for the "control" signal recorded on the tape to control the video signal and track tape running time. In the VHS format, one control pulse is recorded per frame on the provided control track during recording.

CTL time code
CTL time code is a kind of time code signal based on the control signal. "0" and "1" data is generated by *modulating the pulse width of the CTL signal. About* 50 of these binary pulses are required to denote absolute position or user bits on the tape.

Dolby NR
This stands for "Dolby Noise Reduction". This is a noise reduction circuit for audio signals manufactured under license from Dolby Laboratories Licensing Corporation. Optimum noise reduction effect can be obtained when a tape recorded with Dolby NR is played back with Dolby NR.

Frame servo
In the PAL system, video images are produced at the rate of 25 frames per second with each frame consisting of 2 fields (odd and even). The frame servo is a mechanism which automatically synchronizes the odd and even fields on the recording tape with those on the source tape. This is necessary in editing to ensure that there is no instability at edit-in and -out points.

Insert editing
The most commonly used professional editing technique, insert editing replaces the pre-recorded video signal, audio signal, or both, with new material. Insert editing is based on existing CTL signals.

LTC
Acronym for "longitudinal time code". This is a time code recorded on the tape in the longitudinal direction. Normally, with professional VCRs, the normal audio-2 track is used for LTC signal recording.

TBC
Acronym for "time base corrector". Used to correct time base errors in the playback picture.

Time code
This is a signal which denotes the absolute position on the tape synchronized with the video frame. SMPTE/EBU time code is the standard time code in the video/audio industry.

User bits
This is a portion of the time code signal allocated to the user. In SMPTE time code, an 8-digit hexadecimal number, each digit of which can have values from "0" to "F" is available for user bits while 4-digit is available in CTL time code.

VITC
Acronym for "vertical interval time code". This is a time code which is inserted in the vertical blanking interval.

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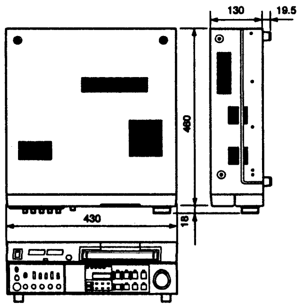
13 SPECIFICATIONS

●GENERAL	BR-S800E	BR-S500E
Format	VHS/S-VHS standard	←
Signal system	PAL-type colour signal/PAL-type Y/C signal	←
Recording & Playback mode	Recording:SP, Playback: SP	Playback: SP
Tape speed	23.39 mm/s	←
Recording & Playback time	Recording: 180 min. /Playback: 180 min.	Playback: 180 min.
Fast forward/Rewind time	Less than 2.5 min. for 180 min. tape	←
Power requirement	220 – 240 V AC, 50/60 Hz	←
Power consumption	49 W (59 W when using RM-G800U)	44 W (54 W When using RM-G800U)
Dimensions	430 (W) X 149.5 (H) X460 (D) mm	←
Weight	Approx. 11.5 kg	←
Operating temperature	5°C to 40°C	←
Storage temperature	–20°C to 60°C	←
Humidity	30 % to 80 %	←
●VIDEO		
Composite IN	0.5 to 2.0 Vp-p, 75 ohms, unbalanced	(Not provided)
Y/C IN	Y:1.0 Vp-p, 75 ohms, unbalanced	(Not provided)
	C:0.3 Vp-p, 75 ohms, unbalanced (Burst)	
Composite OUT	1.0 Vp-p, 75 ohms, unbalanced	←
Y/C OUT	Y:1.0 Vp-p, 75 ohms, unbalanced	←
	C:0.3 Vp-p, 75 ohms, unbalanced (Burst)	←
External Ref	0.5 to 2.0 Vp-p, 75 ohms, unbalanced	←
Horizontal resolution	More than 400 lines (S-VHS)/240 lines (VHS)	←
Signal-to-noise ratio	More than 45 dB (S-VHS) / 45 dB (VHS)	←
●AUDIO		
Number of tracks	4 (Hi-Fi X 2, Normal X 2)	←
Line IN	–6 dBs, 10 k-ohms, unbalanced	(Not provided)
Mic IN	–67 dBs, 3 k-ohms, unbalanced	(Not provided)
Line OUT	–6 dBs, 1 k-ohm, unbalanced	←
Phones OUT	– ∞ to –20 dBs, 8 ohms, unbalanced, stereo	←
Hi-Fi audio		
Frequency response	20 to 20,000 Hz	←
Dynamic range	More than 85 dB	←
Wow & flutter	Less than 0.006% WRMS	←
Normal audio		
Frequency response	50 to 10,000 Hz	←
Signal-to-noise ratio	More than 40 dB (NR-off, at 3 % distortion)	←
Wow & flutter	Less than 0.25% RMS (Normal)	←
●ACCESSORY	Power Cord	←

DIMENSIONS
Unit: mm

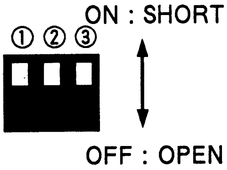
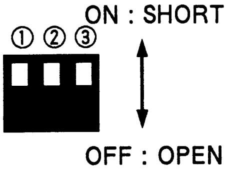
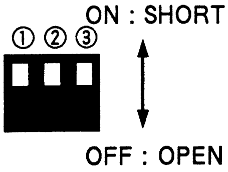
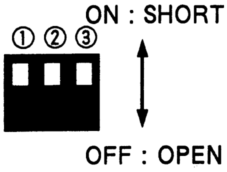
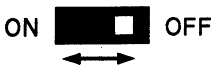


Design and specifications subject to change without notice.

SECTION 1
GENERAL DESCRIPTION AND DISASSEMBLY

1. 1 INTERNAL SWITCHES

- $\boxed{0}$ $\boxed{3}$ SLOT MOTHER board

<table>
<tr><th>Symbol No.</th><th>Switch Name</th><th>Setting at Shipment</th><th>Function</th></tr>
<tr><td>SW 1-1</td><td>Output selector switch</td><td> </td><td rowspan="2">To select one of output signals originating from the internal circuits of this set and from an optional board connected to the upper slot. For detail of switch setting, refer to the service manual of the externally connected optional board.
ON :Output signal of internal circuit is selected.
OFF :Output signal via optional equipment is selected.
For the function of respective switches, refer to the following table.<table><tr><td>SW1-1-①</td><td>To select C signal output of S-OUT terminal.</td></tr><tr><td>SW1-1-②</td><td>To select Y signal output of S-OUT terminal.</td></tr><tr><td>SW1-1-③</td><td>To select output of LINE OUT-1 terminal.</td></tr><tr><td>SW1-2-①</td><td>To select C signal input.</td></tr><tr><td>SW1-2-②</td><td>Not used.</td></tr><tr><td>SW1-2-③</td><td>To select Y signal input.</td></tr></table><i>Note : If all of the above switches are set to OFF without connection of optional board, no signal is output.</i></td></tr>
<tr><td>SW 1-2</td><td>Output selector switch</td><td> </td></tr>
<tr><td>SW 2-1</td><td>Output selector switch</td><td> </td><td rowspan="2">To select one of output signals originating from the internal circuits of this set and from an optional board connected to the lower slot. For detail of switch setting, refer to the service manual of the externally connected optional board.
ON :Output signal of internal circuit is selected.
OFF :Output signal via optional equipment is selected.
For the function of respective switches, refer to the following table.<table><tr><td>SW2-1-①</td><td>To select C signal output of S-OUT terminal.</td></tr><tr><td>SW2-1-②</td><td>To select Y signal output of S-OUT terminal.</td></tr><tr><td>SW2-1-③</td><td>To select output of LINE OUT-1 terminal.</td></tr><tr><td>SW2-2-①</td><td>To select C signal input.</td></tr><tr><td>SW2-2-②</td><td>Not used.</td></tr><tr><td>SW2-2-③</td><td>To select Y signal input.</td></tr></table><i>Note : If all of the above switches are set to OFF without connection of optional board, no signal is output.</i></td></tr>
<tr><td>SW 2-2</td><td>Output selector switch</td><td> </td></tr>
<tr><td>SW 3</td><td>TBS switch</td><td> </td><td>To select external sync signal input to the set.
OFF :Input signal to the SYNC IN terminal is selected.
ON :Signal that passed the optional TBS board (SA-N50) is selected.
(When TBS board is connected, set this switch to ON.)
<i>Note: "ON" and "OFF" appearing on the board differ from the ON and OFF operations of this switch shown on the circuit diagram.</i></td></tr>
</table>

1. 2 REMOVAL OF EXTERNAL COVERS

Note: When disassembling the set, make sure that the power is disconnected (power cord is disconnected from the AC outlet) beforehand.

Cover to remove	Screw to remove	Description
Top cover (Fig.1-2-1)	Ⓐ(2pcs.) total (2pcs.)	• Remove two screws Ⓐ and pull the top cover rearward to remove it.
Bottom cover (Fig.1-2-4)	Ⓑ(3pcs.), Ⓒ(1pcs.) total (4pcs.)	• Remove screws Ⓑ and Ⓒ (four screws in total). ***Note :Among the four screws, one screw Ⓒ is different from others.*** • Release the bottom cover from two hooks Ⓕ of the rear bracket and pull it out.
Front panel (Fig.1-2-1,3,4)	Ⓐ(2pcs.) total (2pcs.)	• Remove the top cover. (Refer to the above description.) • Remove all the knobs of the SEARCH control, TRACKING control (with washer), and various LEVEL controls. • Carefully lift the front panel assembly upwards to disengage the three hooks Ⓖ retaining it in the upper side. (Fig. 1-2-3) • Tilt the front panel assembly frontward to disengage the three hooks Ⓗ retaining it in the lower side, and then take out the front panel assembly. (Fig. 1-2-4). ***Note :For removing and reinstalling the cassette housing, make sure to remove the front panel beforehand otherwise the REC SAFETY switch may be damaged.***
Rear bracket (Fig.1-2-5)	Ⓓ(4pcs.) total (4pcs.)	• Remove four screws Ⓓ with the arrow, and pull out the rear cover. ***Note :• The rear bracket is fitted with the REAR board, which is directly connected to the MOTHER-2 board with connectors.*** ***• When reinstalling the rear bracket, it is recommended to remove the top cover to do the work easily.***
Right(Left) side cover (Fig.1-2-1,2)	Ⓔ(4pcs. each) total (4pcs.)	• Remove four screws Ⓔ from a side (right or left) and pull out a side cover. ***Note :When rescrewing Ⓔ, pay attention to two screw holes near the front panel. (There are two other screw holes nearby the front panel, and they are not for the screws Ⓔ as shown in Fig. 1-2-2.)***

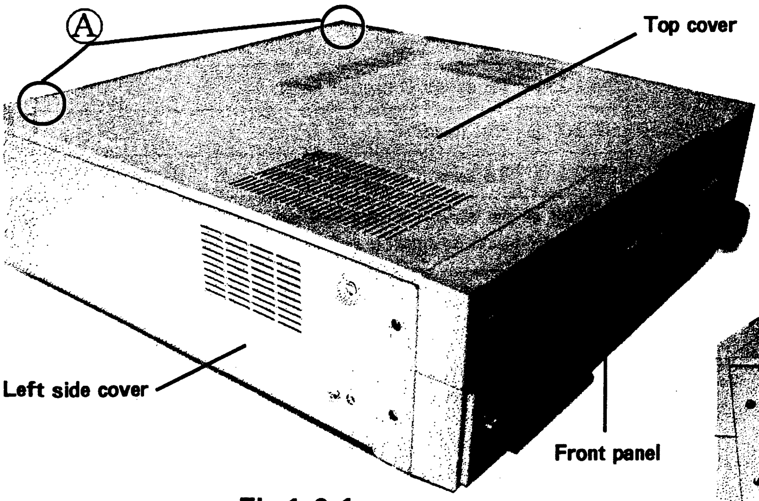


Fig.1-2-1

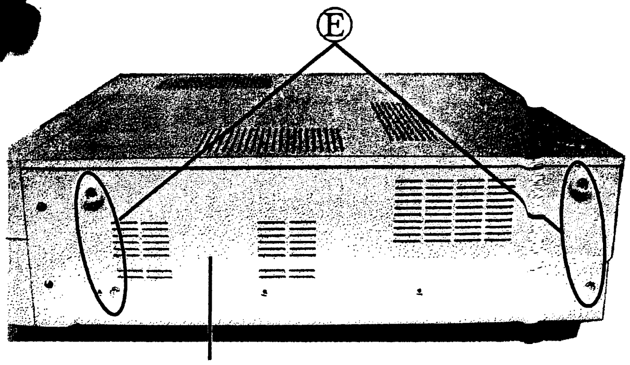


Fig.1-2-2

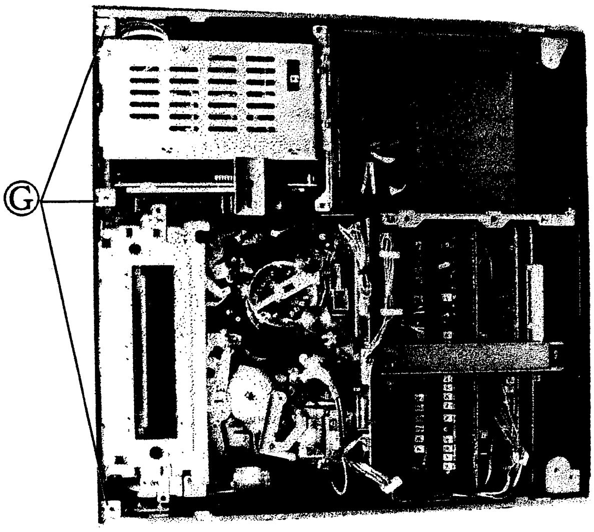


Fig.1-2-3

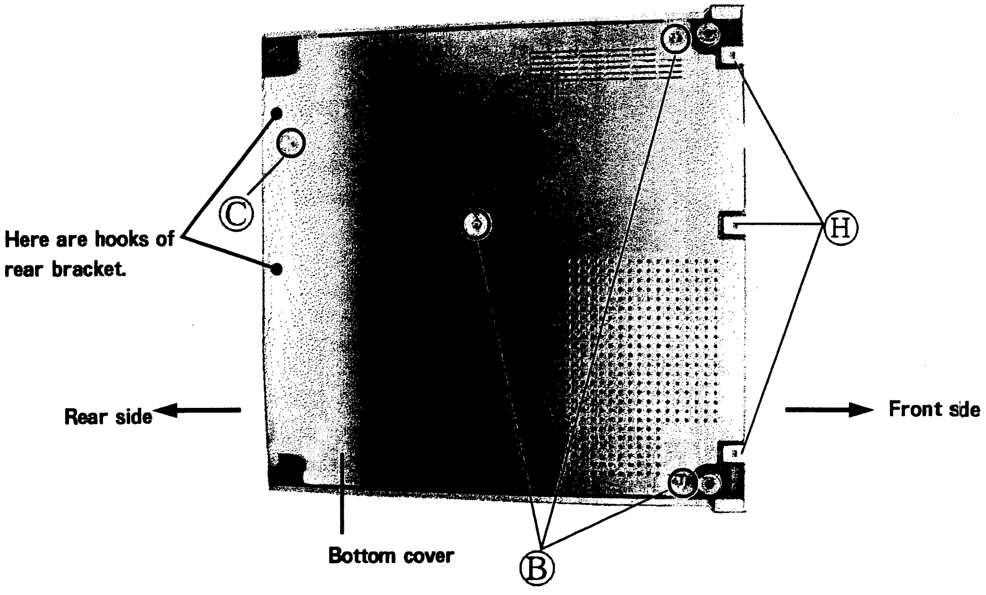

C
Here are hooks of rear bracket.
H
Rear side
Front side
Bottom cover
B

Fig.1-2-4

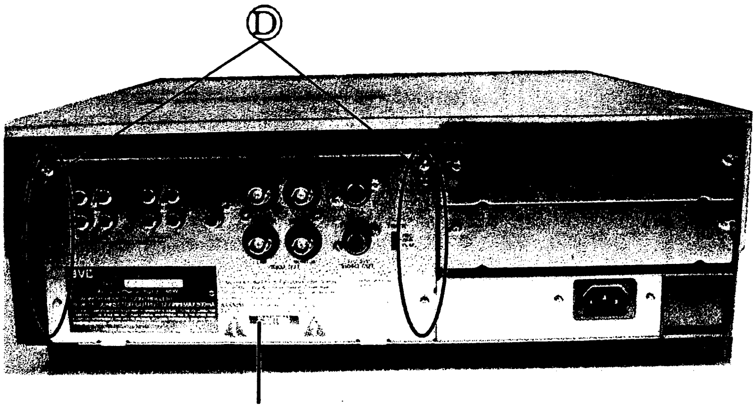
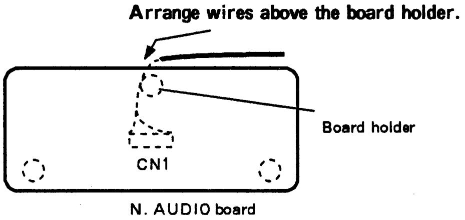

D
Rear bracket

Fig.1-2-5

1. 3 REMOVAL OF MAIN BOARDS

Note :
When removing and reinstalling boards, make sure that the power is disconnected (power cord is disconnected from the AC outlet) beforehand. When reinstalling boards and connectors that were once removed or disconnected, make sure to set and connect them as they were before removal.

Board Name	**Cover to remove**	**Description**
10 VIDEO-1 **11 VIDEO-2**	Top cover	1. Loosen the screw of the holder Ⓐ and turn the holder Ⓐ upwards. 2. Lift the desired board upward and take it out. (Disconnect the connector of the desired board if there is.) ***Note :*** • ***The N. AUDIO board is connected with the FM AUDIO board.*** • ***When connecting the wires originating from the connector CN1 of the NORMAL AUDIO board, arrange them so as to pass above the upper side of the board holder.***  Arrange wires above the board holder. Board holder CN1 N. AUDIO board
20 FM AUDIO **21 N. AUDIO (BR-S800)** **22 N. AUDIO (BR-S500)**		
23 AV I/O		
31 SYSCON		1. Loosen the setscrew of the holder Ⓑ and slide the holder Ⓑ. 2. Lift the desired board upward and take it out. ***Note :*** ***For removing the SW. REGULATOR board, remove four screws retaining it to the chassis.*** ***If the wire clamp on the bottom is removed, the SW. REGULATOR board can be taken out as it is assembled with the original wiring.***
SW. REGULATOR **60 PRIMARY** **61 SW. REGULATOR** **62 REGULATOR**		
12 AV PRE/REC		1. Remove two screws retaining the AV PRE/REC board to the drum base. 2. Disconnect all connectors of the board.
30 SERVO M-CTL	Bottom cover	1. Disconnect all connectors of the board. 2. Loosen the two setscrews and open the board at an angle of 45° 3. Remove the board from the holder.
40 REAR	Rear bracket	1. Remove the screws retaining the rear bracket and REAR board together with. 2. Remove the REAR board from the rear bracket.
OPERATION **32 OPERATION-CPU** **33 OPERATION-VR** **34 OPERATION-SW** **35 OPERATION-DIAL**	Front panel	1. Remove the screws retaining the boards to the chassis. 2. Disconnect all connectors of the boards. 3. Pull the boards frontward to remove them together. ***Note :*** ***For removing the OPERATION-CPU board, it is required not only to remove the OPERATION-VR board beforehand but also to pay the most careful attention to the board connector because the OPERATION-CPU board is directly connected to the MOTHER-1 board with the connector.***

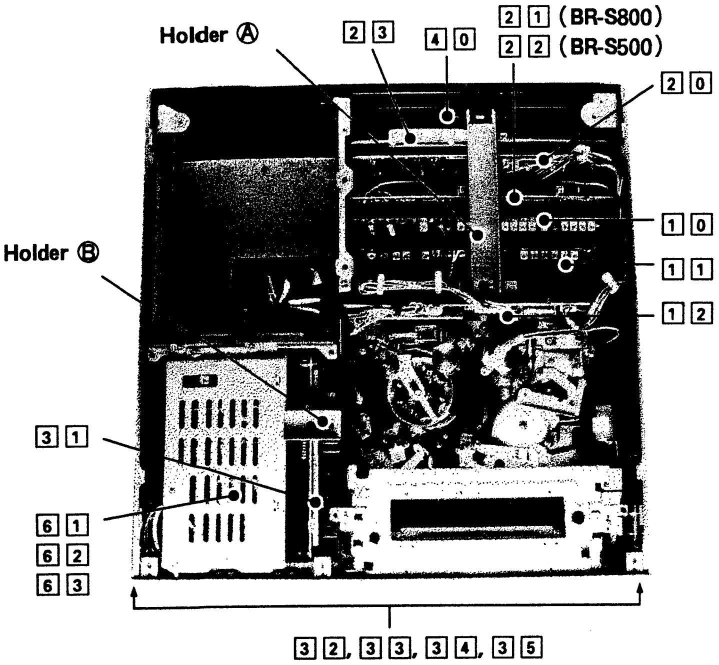

Holder Ⓐ
23
40
21 (BR-S800)
22 (BR-S500)
20
10
11
12
Holder Ⓑ
31
61
62
63
32, 33, 34, 35

Fig.1-3-1

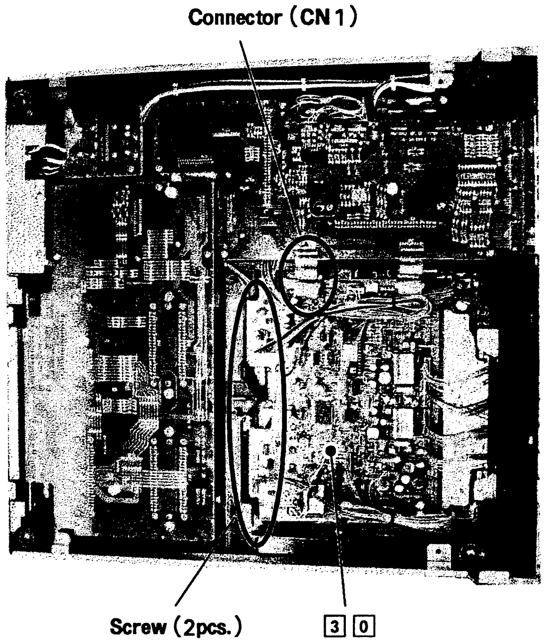

Connector (CN1)
Screw (2pcs.)
30

Fig.1-3-2

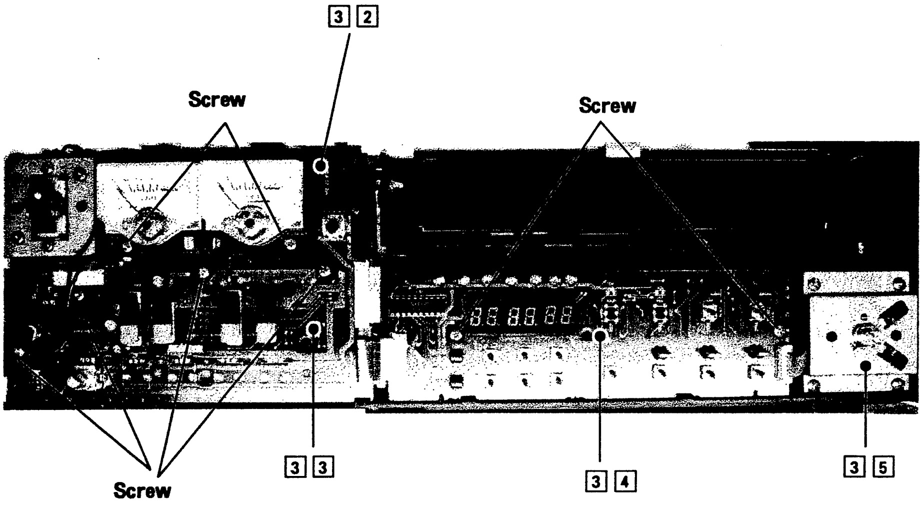

32
Screw
Screw
Screw
33
34
35

Fig.1-3-3

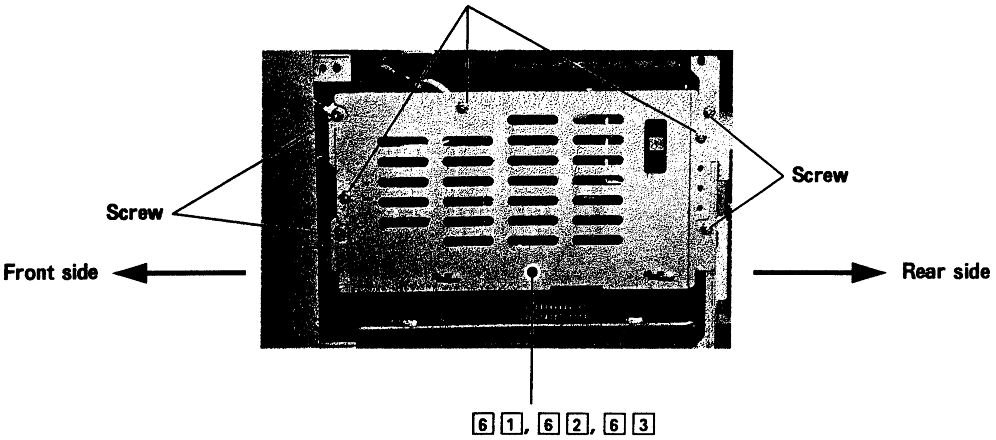

Screw (for CASE)
Screw
Screw
Front side
Rear side
61, 62, 63

Fig.1-3-4

SECTION 2
MECHANISM ADJUSTMENT

2.1 GENERAL DESCRIPTION

2.1.1 Precaution

(1) Before use of a soldering iron, make sure to disconnect the power cord of the set from the outlet.
(2) Do not pull connector cables strongly for disconnecting connectors.
(3) Do not disturb VRs and other controls unreasonably as the set has trouble of unknown origin.
(4) When inserting a cassette tape into the cassette housing, don't do it if the set is not placed right such as it is laid on its side, rear, top, or so. Otherwise the cassette housing may be damaged.

2.1.2 Jigs and special tools for mechanism adjustment

The following jigs and special tools are necessary for adjusting the mechanism.

General tools Besides the below special tools and jigs, the following general tools are necessary.

- Nut driver (5.5 mm)
- Hex. keys (0.9 mm, 1.27 mm, 2 mm)
- Ordinary screwdrivers (−) (No. 1, No. 2)
- Phillips head screwdriver (+)
- Spacers (0.1 mm)

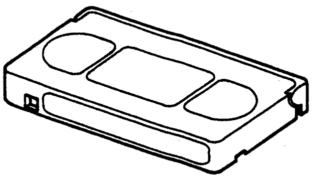
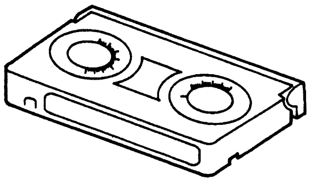
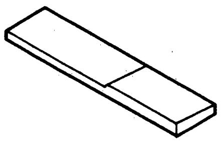
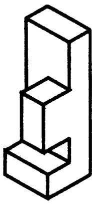
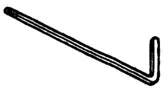
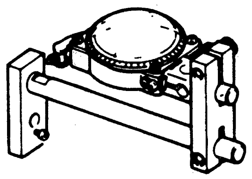
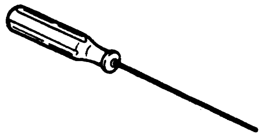
Alignment tape MHPE,MBAE,MBAE-3,MBPE-X	Cassette torque meter PUJ42881/PUJ42881B	Parallel check plate PGJ04035(0.05)/PUJ50204(0.1)	Height gauge PGJ04032
			
Line head wrench PGJ04033	Microchecker PUJ49712-2	Hex. driver PGJ04034(2mm)	
			

Table 2-1-1

2.1.3 Specifications of alignment tapes

•MHPE

Video signal	Audio signal	Application	Remark
VHS (SP mode) Stairstep	6kHz	For check and adjustment of interchangeability. For adjustment of PB switching point.	Stairstep segment of MH-2 tape is substitutable.

•MBAE

Video signal	Audio signal	Application	Remark
CTL signal only	1kHz	For check and adjustment of audio PB circuit.	1 kHz segment of MH-2 tape is substitutable.

•MBAE-3

Video signal	Audio signal	Application	Remark
–	1kHz (Guard band recording)	For rough adjustment of stereo A/C head height.	Tape that MHAE-3 is changed just in the name.

•MBPE-X

Video signal	Audio signal	Application	Remark
Stairstep (SP) (Non-recorded feiled every 5 frames)	6kHz	For adjustment of X-value.	Tape that MHPE-X is changed just in the name.

2.2 MAINPARTS REPLACEMENT TABLE

Periodic inspection and maintenance are important to ensure the original capacity and reliability of the set. The following table shows just a maintenance and replacement standard that is compiled based on general and average use of the set. In actual, the periods will widely vary depending on environmental and usage conditions.

If the inspection and maintenance work of the following items are improperly performed, it not only shortens the periods but also gives bad influence on the set. Also keep it in mind that rubber parts may deform and age even when the set is not used and the service life of the upper drum is particularly affected by environmental and usage conditons.

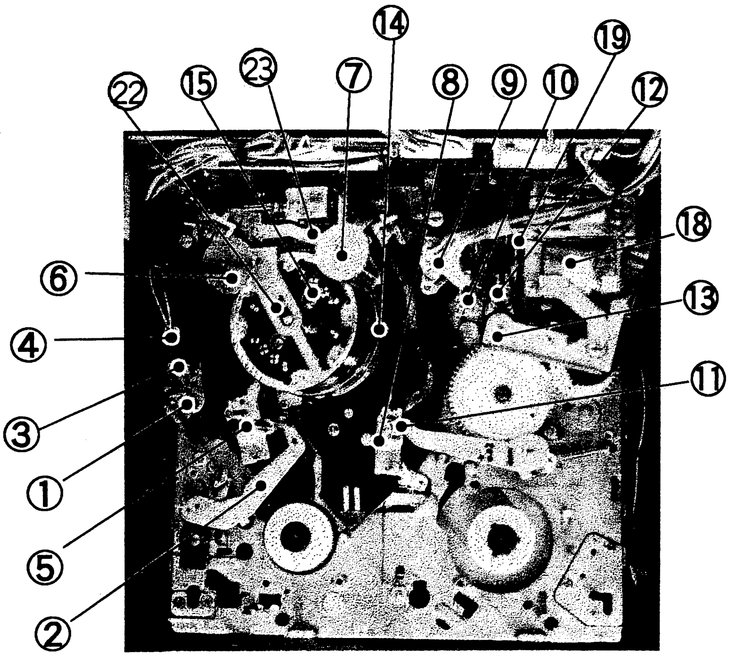
	No.	Part Name	Part Number	Standard service period ※				Ref. Sect.	Remark
				1000	2000	3000	4000		
Tape transport system	①	Supply guide shaft	—	★	★	★	★	—	
	②	Tension arm assembly	PRD43638A-01	★	★	★	●	2.3.7	
	③	Supply guide roller	PRD43721A					2.7.2	
	④	Full erase head (BR-S800)	PGZ01841					—	
	⑤	Supply pole base assembly	PRD30809A					2.3.13	
	⑥	Supply inertia roller	PGZ01920					2.3.2	Included in Drum assembly
	⑦	Take-up inertia roller	PGZ01920-02					2.3.2	Included in Drum assembly
	⑧	T.U. pole base assembly	PRD30811A-02					2.3.13	
	⑨	A/C head	PGZ01840					2.3.6	Excluding A/C head board
	⑩	Take-up guide roller	PRD44151A-01					2.7.3	
	⑪	Guide arm roller assembly	PRD43660A-02					2.7.4	
	⑫	Capstan shaft	—	★	★	★	★	—	
	⑬	Pinch roller arm assembly	PRD43387A-01	○	●	○	●	2.3.8	
	⑭	Drum assembly (BR-S800) Drum assembly (BR-S500)	LDR2003A LDR2004A	★	★	○	●	2.3.5	
	⑮	Upper drum assy (BR-S800) Upper drum assy (BR-S500)	PRD20458B PRD20485B	●	●	●	●	2.3.2/2.3.3	Included in Drum assembly
Drive system	⑯	Capstan motor	PGZ01535-01-01				●	2.3.9	
	⑰	Reel motor	PGZ01958A				●	2.3.10	Assembled part
	⑱	Mode motor	PRD44123A				●	2.3.11	
	⑲	Loading belt	PRD30022-17 PRD30022-18	●	●	●	●	—	Motor side Worm gear side
	⑳	Cassette housing	PGS21023A				●	2.3.1	
	㉑	Reel brake	PRD43479A-01		●		●	2.3.12	
Others	㉒	Brush assembly	PRD44288A		●		●	2.3.2	Included in Drum assembly
	㉓	Head cleaner	PQ44837	●	●	●	●	—	Not included in Drum assembly

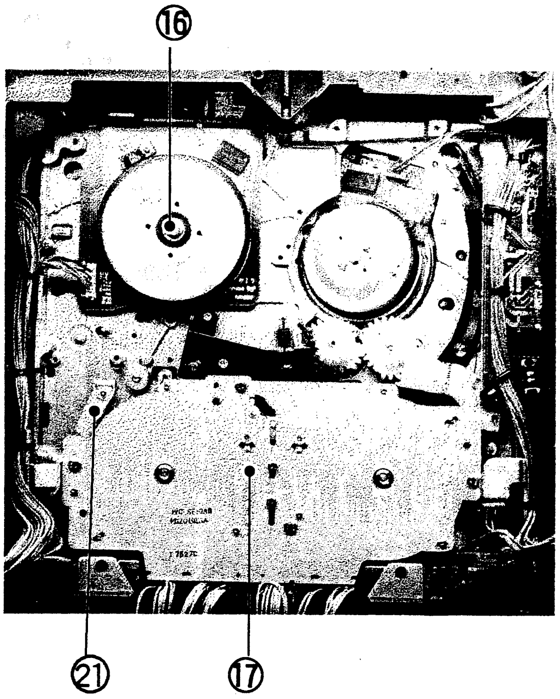
※ For service hours, follow the indication of the hour meter of the drum in principle.

★=Cleaning
○=Check and Replace if necessary, or Check and Clean
●=Replacement

2.2.1 Location of main parts

For names of respective parts indicated by numbers, refer to the table on the previous page.





2.2.2 Cleaning

Periodical cleaning of the tape transport system is desirable, however, it is almost impossible to put it into practice on schedule. Therefore, it is strongly recommended to clean the tape transport system when a set is brought in for repair, etc. For cleaning, use fine wooven cotton cloth (like cotton shirting) moistened with ethylalcohol.

(1) Dirty video head causes rough playback picture and non-reproduction of picture in an extreme case.
To clean the video heads, lightly press such cotton cloth as mentioned above to the upper drum while turning the upper drum.

Note:
Do not move the cleaning cloth on the upper drum since the video head is weak against vertical force. Otherwise, the video heads may be damaged.

(2) Dirty tape guide not only gets the video heads dirty much more but also damages tapes.
(3) Dirty and dusty brush causes snow noise in playback picture and non-picture reproduction.

2.2.3 Oiling and greasing

If oil or grease on the other party is dirty and aged in case of parts replacement, wipe it off and apply new oil or grease as well as to do it for new parts.

(1) Oil and grease used in this set are as follows.

Item	Name	JVC Part No.
Oil	Cosmo Hydro HV56	COSMO-HV56
<General spindle oil (low viscosity) is substitutable>		
Grease	Moriton Grease (Black)	MOS2-C
	Fuloil G-31KAV (light blue)	KANTO-G-31KAV
	FULOIL GB-TS-1 (brass)	KANTO-GB-TS-1

(2) Grease the control cam every 2000 hours of operation.
(3) For other parts, apply grease to them every 4000 hours of operation or on parts replacement.

2.3 REPLACEMENT OF MAIN PARTS

<table>
<tr><th>No.</th><th>Item</th><th>Adjustment & Check</th></tr>
<tr><td>1</td><td>

Cassette housing assembly

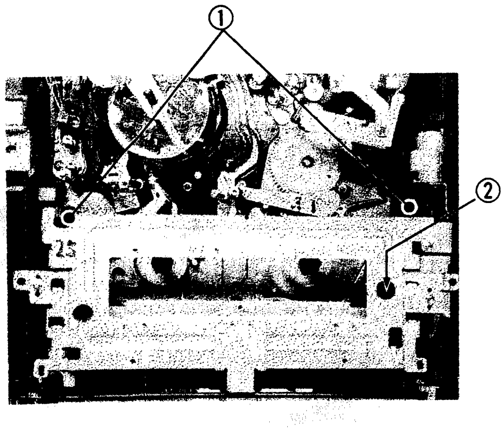


Fig.2-3-1 Removal of cassette housing assy

</td><td>

Note:
When reinstalling the cassette housing assembly to the set, do it as the front panel is taken off otherwise the REC safety switch may be damaged.

(1) Take out the front panel assembly. (Section 1.2)

(2) Remove two screws ① and one screw ②.

(3) Push the cassette housing toward the drum once to release it from the hook, and lift it upward while disconnecting the housing connector and taking it out.

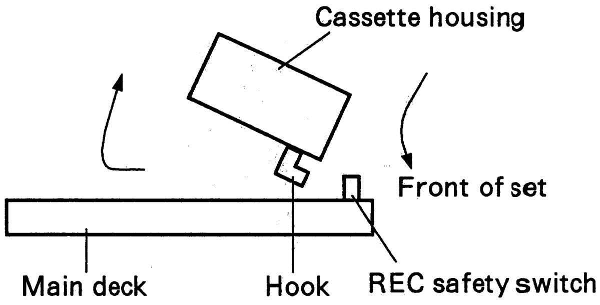

Cassette housing
Front of set
Main deck
Hook
REC safety switch

Fig.2-3-2 Reinstallation of cassette housing assy

</td></tr>
<tr><td>2</td><td>

Removal of upper drum assembly

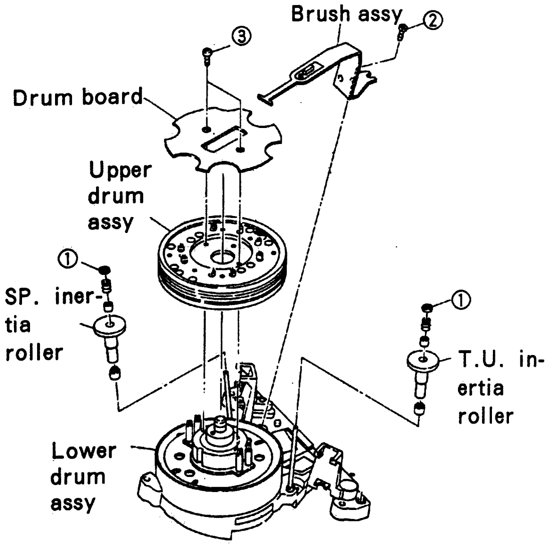

Brush assy
②
③
Drum board
Upper drum assy
①
SP. inertia roller
①
T.U. inertia roller
Lower drum assy

Fig.2-3-3 Removal of upper drum assembly

</td><td>

(1) Take out the top cover assembly. (Section 1.2)

(2) Remove the head cleaner assembly.

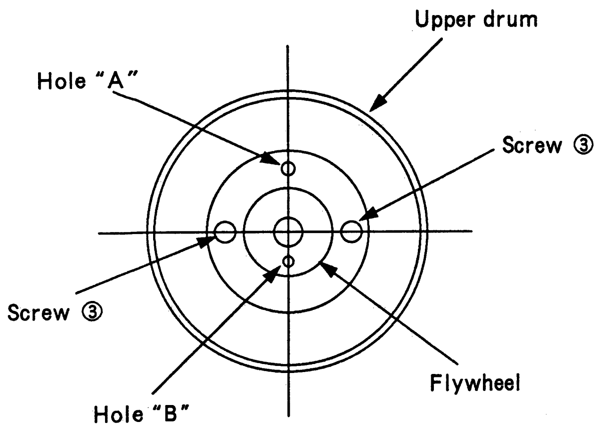
(3) Remove two slit washers ① and then remove the inertia roller with careful attention to spring, etc. not to lose them.
Note:
When the slit washer is removed, replace it with new one.
(Part No. PQM30017-25)

(4) Remove one screw ② and then remove the brush assembly.

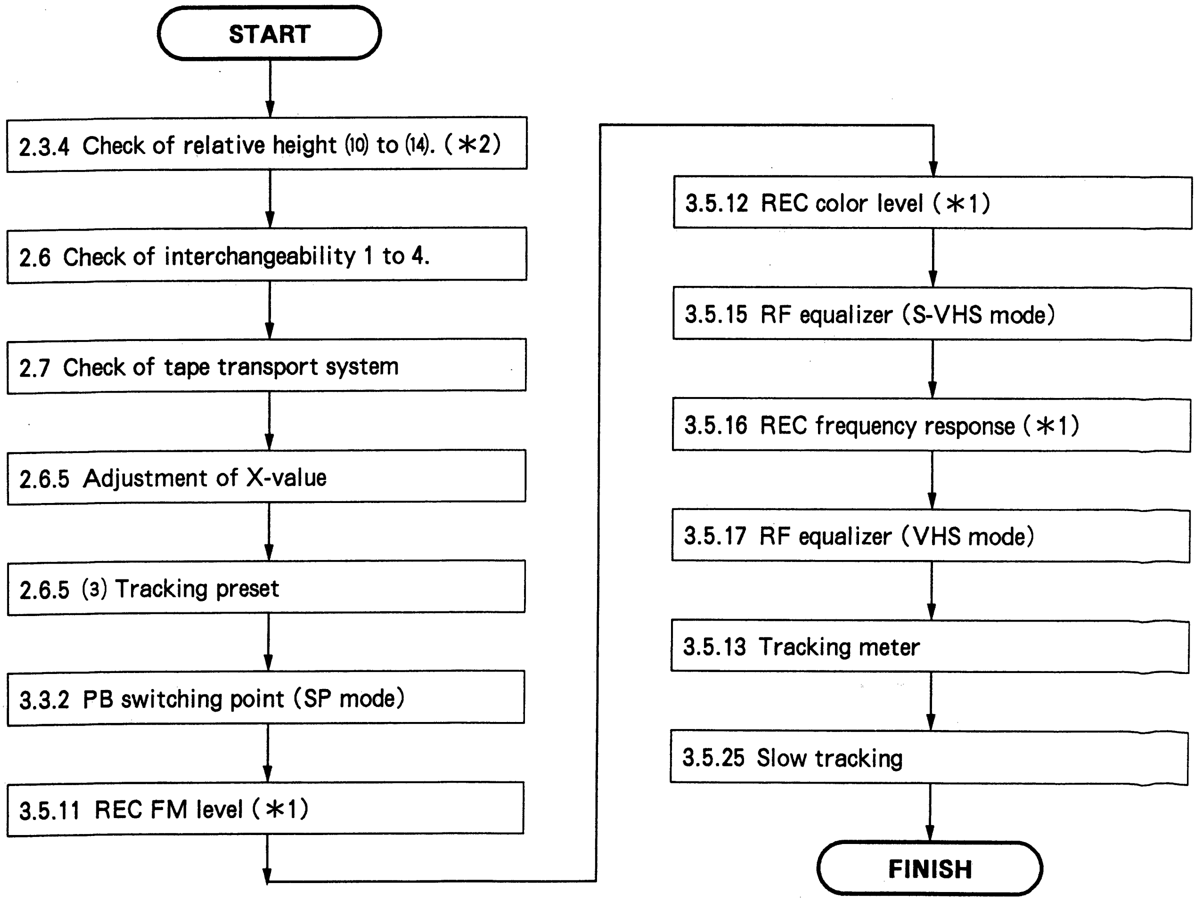
(5) Unsolder on the DRUM board and remove solders.

(6) Remove two screws ③ and take out the upper drum assembly.

</td></tr>
</table>

No.	Item	Adjustment & Check
3	**Reinstallation of upper drum assembly**  Upper drum Hole "A" Screw ③ Screw ③ Flywheel Hole "B" Fig.2-3-4 Reinstallation of upper drum assy	(1) Clean the respective contact surfaces of upper drum assembly and the lower drum assembly with alcohol. (2) Install the upper drum assembly so as to face the hole "A" (ϕ2.7mm) of the upper drum and the hole "B" (ϕ1.6 mm) of the flywheel right opposite to each other (at an angle of 180. For fixing them, tighten the screws ③ with a torque of 0.441 to 0.49 N.m. (3) Proceed to check the "Centering of upper drum" (subsection 2.3.4, steps (1) through (9)). (4) After confirming the upper drum centering, solder the DRUM board. (5) Reassemble the brush assembly and the head cleaner assembly to the drum assembly. (6) After the adjustment, proceed to the following check and adjustment.

– Check and adjustment –


START
2.3.4 Check of relative height (10) to (14). (✻2)
2.6 Check of interchangeability 1 to 4.
2.7 Check of tape transport system
2.6.5 Adjustment of X-value
2.6.5 (3) Tracking preset
3.3.2 PB switching point (SP mode)
3.5.11 REC FM level (✻1)
3.5.12 REC color level (✻1)
3.5.15 RF equalizer (S-VHS mode)
3.5.16 REC frequency response (✻1)
3.5.17 RF equalizer (VHS mode)
3.5.13 Tracking meter
3.5.25 Slow tracking
FINISH

✻1 : Unnecessary for BR-S500
✻2 : Unnecessary for replacing drum assembly

No.	Item	Adjustment & Check
4	Centering of upper drum If the upper drum is installed being deviated from the center of the drum shaft, it causes jitter, etc. When the upper drum is replaced, make sure that no wobbling is observed in the upper drum rim.	

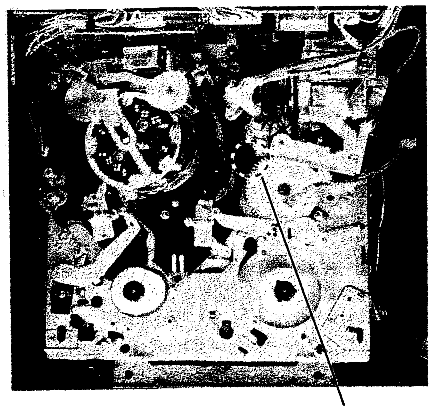
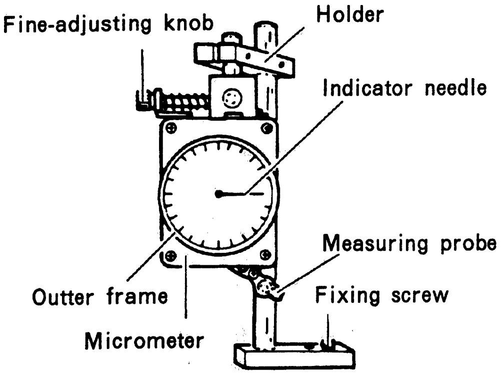


Fig.2-3-5 Mounting of microchecker

- Cautions on handling of microchecker

① Keep the microchecker out of any shock or strong vibration since it is a high precision instrument.
② Do not apply unnecessary force to the microchecker's probe.
③ Although the outer ring of the microchecker can be turned in a range of 0 graduations, do not turn it with strong force (more than 300 g-cm).
④ Be careful not to touch the microchecker's probe with the heads, particularly with the video heads.
⑤ On setting the microchecker, make sure that the working direction of the probe points at the center of the upper drum.
⑥ If rubbing or grating sound occurs in measuring, it results from bad setting or abnormal contact of the microchecker. Check that there is neither dust nor foreign substance on the upper drum and tip of the probe.



Microchecker : PUJ49712-2

Note:
For centering the upper drum, a setscrew (SDSP2610Z) is necessary besides a microchecker.

(1) Turn the mode motor counterclockwise (toward the rear side) to enter the set into the loading end state.

(2) Remove the fixing screw from the base of the microchecker.

(3) Set the microchecker holder at the place shown in Fig. 2-3-5 and fix it with a screw (SDSP2610Z).
Notes:
- ***It is allowed to mount the microchecker holder at the place where the earth plate is installed under the cassette housing assembly.***
- ***If there is no internal thread for the specified screw at the place shown in the figure, use a tapping screw (SDST2608Z) to fix the microchecker holder.***

(4) Mount the microchecker with care not to knock the upper drum with it.

(5) Slowly turn the microchecker's fine adjustment knob clockwise so that the pointer indicates "0" graduation. Pointer adjustment is also possible by turning the outer ring of the microchecker, but the adjustable range is limited within 0 graduations. To apply the microchecker to the drum assembly, plae it between the 4th and 5th grooves of the drum from the bottom.

(6) Turn the upper drum gently with care not to apply lateral pressure to it. (Turn it with a paper string, for example). If the pointer deflects, it must be within micron at maximum.

(7) When the pointer deflection exceeds micron, turn the fine adjustment knob counterclockwise and remove the probe from the upper drum. Then, loosen two screws retaining the upper drum while adjusting the upper drum position slightly. Tighten the two screws again.

(8) Repeat check of pointer deflection and adjustment of the upper drum position until pointer deflection becomes within micron.

(9) When dismounting the microchecker, turn the fine adjustment knob counterclockwise first.

— Check of relative height —

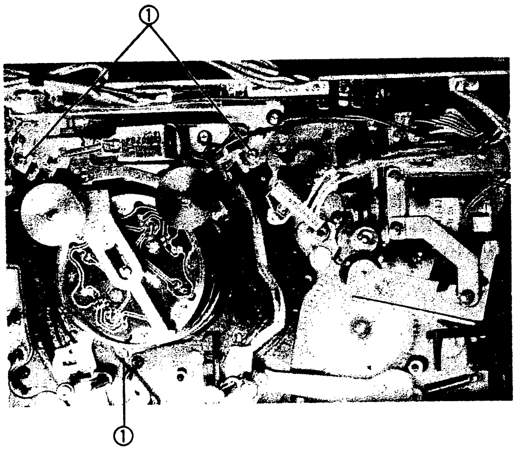
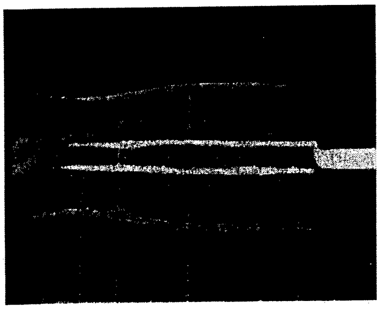
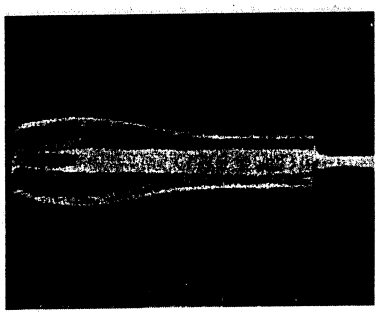
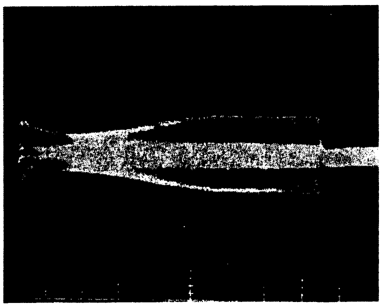
(10) Turn on the power switch.

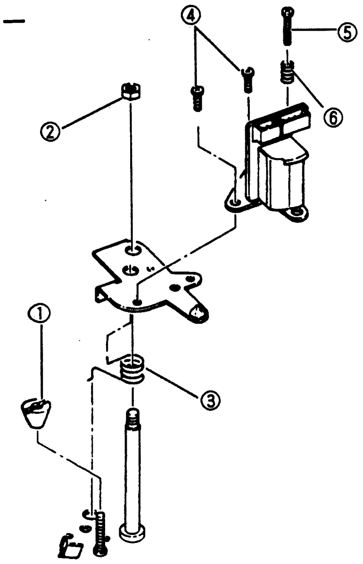
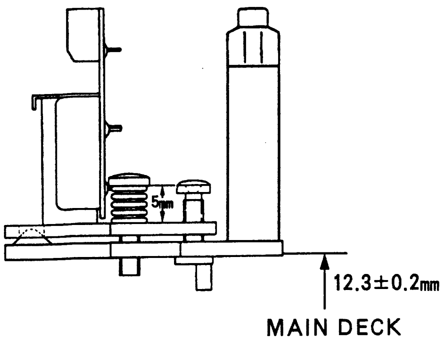
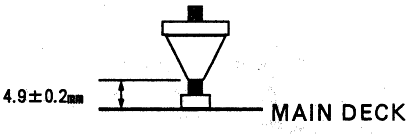
(11) Connect the oscilloscope to TP101(:8F) on the $\boxed{1}\boxed{2}$ AV PRE/REC boardand play back the MHPE alignment tape.

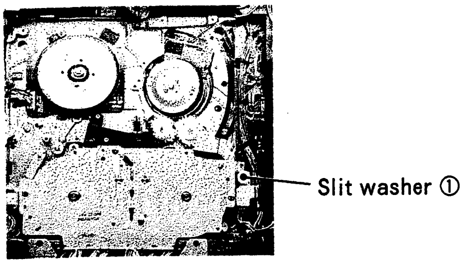
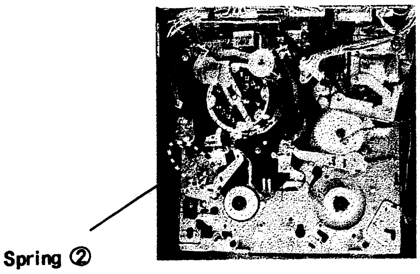
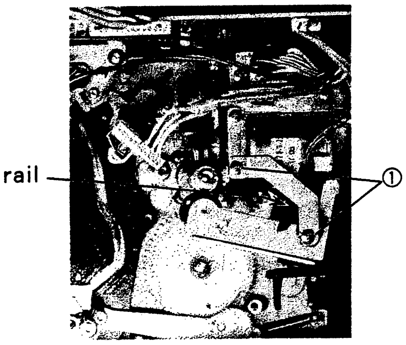
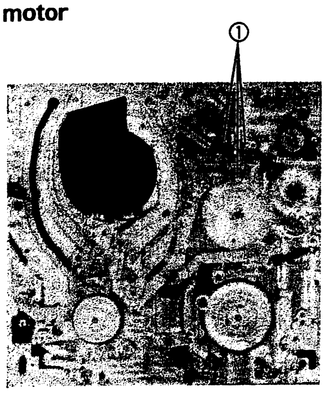
(12) Turn the TRACKING VR to check that waveforms of CH1 and CH2 become maximum at the same time.

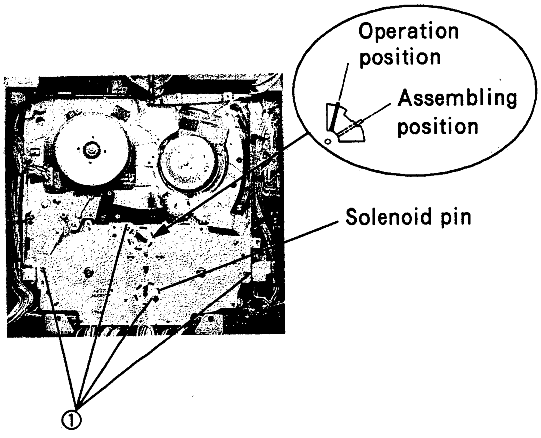
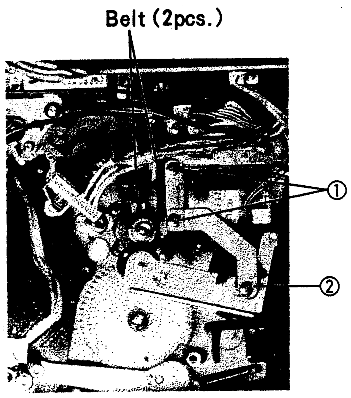
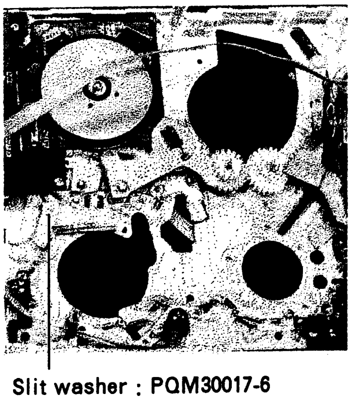
(13) If there is a remarkable time lag and level difference between the two channels, remove the upper drum once and clean the upper surface of the flywheel of the lower drum. Fit the upper drum again and repeat the above steps (1) through (12).

(14) If the result of repeated adjustments of the steps (1) through (13) does not meet the requirement, replacement of the drum assembly is recommended.

No.	Item	Adjustment & Check
5	**Drum assembly** **(Upper drum + Lower drum + Inertia rollers + Brush)**  Tightening torque: 0.49 N-m (5kg-cm) Fig.2-3-6 Removal of drum assembly	***Note:*** ***When holding the drum assembly, make sure not to touch the brush assembly. When replacing the pole base, do it as the drum assembly is removed.*** (1) Remove the [1][2] AV PRE/REC board. (Section 1.3) (2) Remove the head cleaner assembly. (3) Disconnect the connector (bottom side) and remove three screws ①, then remove the drum assembly to replace it with another. (4) After installation of a new drum assembly is complete, reinstall the AV PRE/REC board assembly and the head cleaner assembly. Then, conduct the check and adjustment according to the flowchart appearing on page 2-5.
	— Reference — **Before replacing drum assembly.**  Tracking center  Tracking (−)	(1) Connect the oscilloscope to TP101(:8F) on the [1][2] AV PRE/REC board and trigger it externally with signal of TP102(:7G) on the same board. (2) Play back the MHPE alignment tape while observing the waveform with turning the TRACKING VR. (3) When the waveform in the supply side shows such a tendency as shown in the figures, the drum lead is worn out and needs to replace.  Tracking (+)

No.	Item	Adjustment & Check
6	**A/C head** — **Removal** —  Fig.2-3-7 Removal of A/C head	(1) **Tools to prepare:** **• Ordinary screwdriver (—)** **• Nut driver ; 5.5mm** (2) Disconnect the connectors from the A/C HEAD board. (3) Remove the taper nut ① for X-value adjustment. (4) Remove the nut ② and then remove the A/C head together with the head base with care not to lose the spring ③. (5) Remove two screws ④ and a screw ⑤ to remove the A/C head. At that time pay careful attention to the spring ⑥ not to lose it. (6) Unsolder the A/C HEAD board and replace the A/C head with new one.
	— **Reinstallation** —  Fig.2-3-8 Temporary installation of A/C head	(7) Before assembling the A/C head to the main deck, conduct rough adjustment of the head height as shown in Fig. 2-3-8. (8) Assemble the A/C head and its peripheral parts to the main deck in the reverse order of the disassembly. (9) When fitting the taper nut, temporarily adjust the height as shown in Fig. 2-3-9.  Fig.2-3-9 Temporary fitting of taper nut
	— **Check and adjustment** —	(10) The check and adjustment should be proceeded in the following order. ***Note:*** ***For tape transport check to be conducted before adjustment, don't use any alignment tape but use a general recording tape since there is a fear of tape getting damaged.*** ① Adjustment of A/C head (see 2.6.4) ② Check of FM waveform (see 2.6.2) ③ Check of X-value (see 2.6.5) ④ Check of tape transport system (see 2.7) ⑤ Automatic adjustment of audio circuit (see 3.4)

No.	Item	Adjustment & Check
7	**Tension arm assembly**  Fig.2-3-10 Tension arm assembly (bottom	(1) Remove the cassette housing assembly. (Section 2.3.1) (2) Open the SERVO/M-CTL board at an angle of 90(to stand it upright). (3) Remove a slit washer ①. (4) Remove a spring ② engaged between the tension arm assembly and the spring adjust assembly, and then lift the tension arm assembly upward to remove it. ***Note:*** ***Replace the slit washer removed once with new one.*** ***(Part No. PQM30017)***
	 Fig.2-3-11 Tension arm assy (top view)	(5) Reassemble the tension arm assembly and its peripheral parts to the main deck in the reverse order of the disassembly. (6) After replacement, conduct the following check and adjustment. ① Adjustment of tape transport system (see 2.7) ② Adjustment of reel servo circuit (see 2.5)
8	**Pinch roller arm assembly**  Fig.2-3-12 Removal of pinch roller arm assy	***Note:*** ***Proceed to do the following work in the Assembly mode (see 2.4.1).*** (1) Take out the top-cover assembly. (2) Remove two screws ① and lift the pinch roller arm assembly upward to remove it. (3) When reinstalling, do it so as to position the cam of the pinch roller assembly on the rail of the solenoid bracket in the assembly mode.
9	**Capstan motor**  Fig.2-3-13 Removal of capstan motor	(1) Take out the bottom-cover assembly. (2) Open the M-CTL/SERVO board so as to tilt it at an angle of 90° (3) Remove the pinch roller assembly referring to 2.3.8. (4) Remove three screws ① and disconnect all connectors, and then remove the capstan motor. (5) After replacement, conduct the adjustments of FG duty ratio and stop servo. (Refer to 3.3.1.)

No.	Item	Adjustment & Check
10	**Reel motor**  Operation position Assembling position Solenoid pin ① Fig.2-3-14 Removal of reel motor	(1) Position the sensor LED at the assembling position as shown in Fig. 2-3-14. (2) Turn the mode motor counterclockwise (toward rear side) to enter the set into the loading end state. (3) Remove four screws ① and remove the reel motor assembly. (4) Set a sensor LED of the new reel motor at the assembling position. (5) Position the sensor LED at the operation position. (6) After replacement, conduct the following check and adjustment. • Adjustment of reel servo circuit (see 2.5.3 to 2.5.6) • Adjustment of FG duty ratio (see 3.3.1).
11	**Mode motor**  Fig.2-3-15 Removal of mode motor	(1) Disengage the belt from the motor pulley. (2) Remove two screws ① and one screw ②, and then remove the mode motor together with the motor bracket. (3) Disconnect a connector from the mode motor and remove it.
12	**Reel brake assembly**  Fig.2-3-16	(1) Remove the SERVO／M-CTL $\boxed{3}\boxed{0}$ board. (2) Remove the reel motor. (Refer to 2.3.10.) (3) Remove a slit washer and then reel brake assembly. ***Note:*** ***When a slit washer is once removed, replace it with new one (PQM30017-6).*** Fig.2-3-17

<table>
<tr><th>No.</th><th>Item</th><th>Adjustment & Check</th></tr>
<tr><td>13</td><td>

Pole base assembly and loading arm assembly

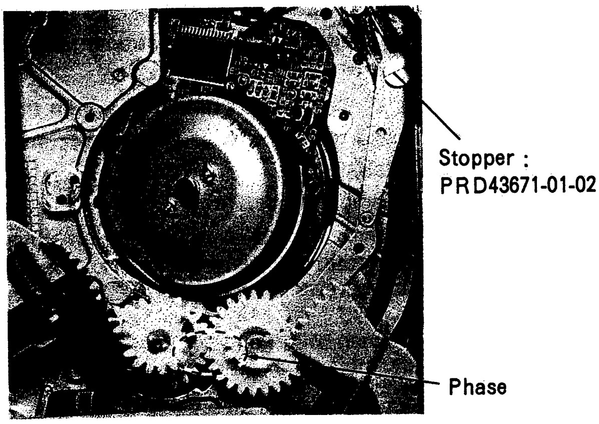


Fig.2-3-18 Installation of supply pole base assy

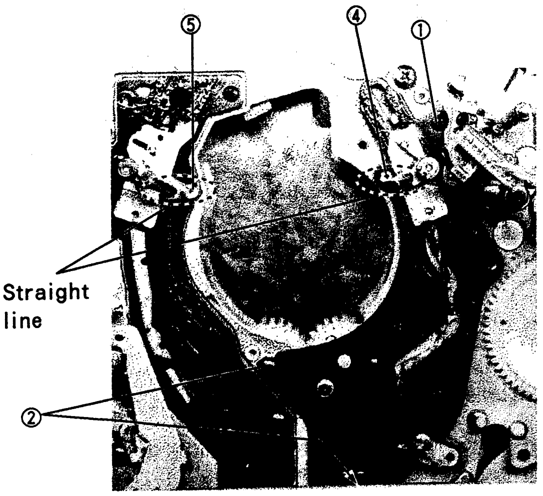


Fig.2-3-19 Removal of take-up pole base assy

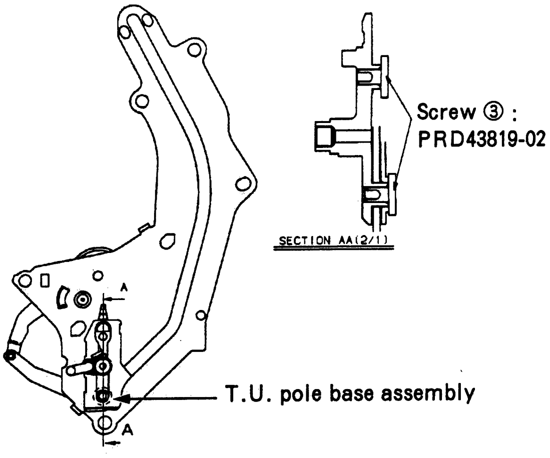


Fig.2-3-20 Removal of take-up pole base assy

</td><td>

(1) Remove the drum assembly. (Refer to 2.3.5.)

(2) – Removal of supply pole base assembly. –
1 Turn the loading motor counterclockwise to set the mechanism to the loading end position.
2 Remove the stopper and lift the pole base assembly to remove it. (Fig.2-3-18)

(3) – Removal of take-up pole base assembly. –
1 Remove a screw ④.
2 Turn the mode motor in the loading direction (toward the rear side) to set the mechanism in a loading position that the slant pole is aligned with the previous position of the screw ④ in a straight line. (Fig.2-3-19)
3 Remove a screw ① and two screws ②, and remove the take-up loading assembly. (Fig.2-3-19)
4 Remove two screws ③ and lift the take-up pole base assembly upward to remove it. (Fig.2-3-20)

(4) When reassembling, proceed as mentioned below.
1 Align the supply slant pole with the screw ⑤ in a straight line. (Fig.2-3-19)
2 Set the take-up slant pole in the position mentioned in the above step (2), and reinstall the loading assembly to the mechanism.
3 Confirm that the supply slant pole and the take-up slant pole are aligned with the screws ④ and ⑤ in a straight line.

(5) Reinstall the drum assembly.

(6) Load the mechanism with a general recording tape, which you don't mind if gets damaged, and check the mechanism operation.

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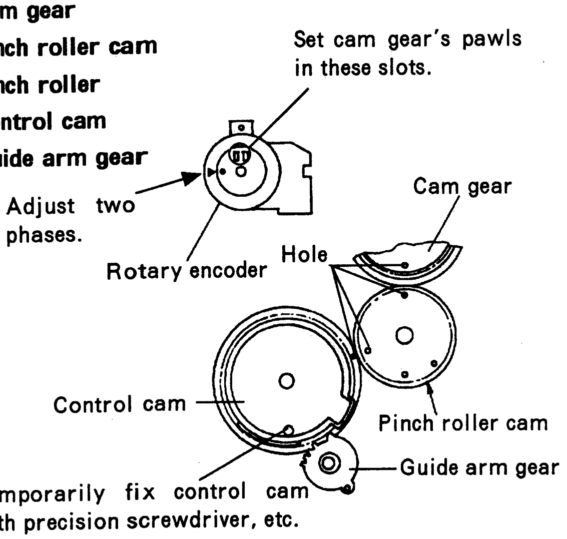
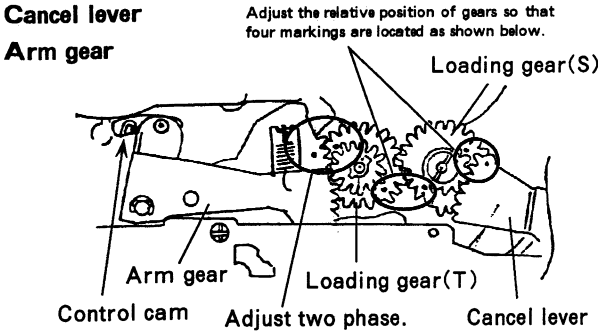
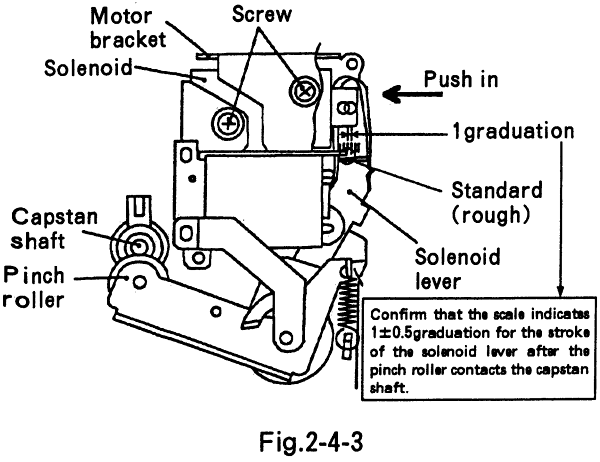
(1) – Removal of supply loading arm assembly –
1 Remove the reel motor.
2 Remove the END SENSOR board.
3 Remove the cancel lever. (slitt washer: PQM30017-12)
4 Remove the STOPPER retaining the supply pole base assembly to the loading arm.
(At that time, pay attention to the collar inserted between the pole base assembly and the loading arm not to lose it.)
5 Disengage the pawl of the gear from the shaft, and remove the supply loading arm assembly.

(2) – Reinstallation of loading arm assembly –
1 Turn the mode motor to set the mechanism in the loading end state.
2 Engage the supply loading gear so that the phases of the take-up loading gear and the supply loading gear are adjusted as shown in the figure. (Fig.2-3-18)
3 Reassemble the cancel lever, the END SENSOR board and the reel motor to the mechanism.

</td></tr>
</table>

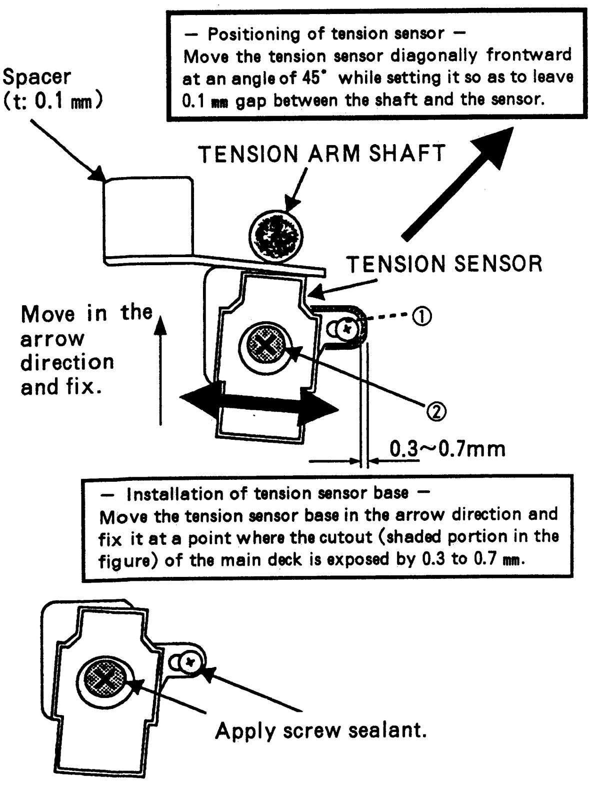
2.4 ASSEMBLING OF MECHANISM

No.	Item	Adjustment & Check
1	**There is a close relation between the rotary encoder and the mechacon circuit in the mechanism of this set, namely, operation of the mechanism components is determined and conducted according to rotation angle of the rotary encoder, in other words, turning angle of the cam gear. Therefore, if there is any component part installed abnormally in the mechanism, it causes malfunction of the mechanism.** **Disassembly and reassembly of mechanism parts of this set must be performed in the assembly mode, in which the pole base assembly is once returned to the most reel side and then the mode motor is turned clockwise (toward front side) to position the hole of the control cam at the same angle as that of the main deck.** **Under those circumstances, make sure to conduct the following work in the assembly mode.**	
	Cam gear **Pinch roller cam** **Pinch roller** **Control cam** **Guide arm gear**  Set cam gear's pawls in these slots. Adjust two phases. Cam gear Rotary encoder Hole Control cam Pinch roller cam Guide arm gear Temporarily fix control cam with precision screwdriver, etc. Fig.2-4-1 Assembling position	(1) Adjust the phase of the control cam so that its hole overlaps the hole of the main deck, and temporarily fix the control cam with a precision screwdriver, etc. (2) As the holes of the pinch roller cam are positioned as shown in Fig. 2-4-1, assemble the pinch roller cam to the mechanism. (3) Fit the pinch roller to the mechanism. (4) Adjust the phase of the rotary encoder as shown in the figure and engage the cam gear with the pinch roller cam taking care of its phase. (5) Points of the work ① Fix the control cam with a precision screwdriver, etc. to prevent it from rotating. ② Fit the cam gear's pawl into the dimple of the rotary encoder.
2	**Loading gear (Supply)** **Loading gear (Take-up)** **Cancel lever** **Arm gear**  Adjust the relative position of gears so that four markings are located as shown below. Loading gear(S) Arm gear Loading gear(T) Control cam Adjust two phase. Cancel lever Fig.2-4-2	(1) Assemble the two loading gears (supply and take-up), cancel lever and arm gear so that the four holes of them are positioned as illustrated. (2) Rotate the mode motor in the loading direction (toward the rear side) by about 12 to 14 turns. (3) Engage the arm gear with the take-up loading gear so that they are so positioned as their phases set as illustrated.
3	**Pinch roller solenoid position**  Motor bracket Screw Solenoid Push in 1graduation Standard (rough) Capstan shaft Solenoid lever Pinch roller Confirm that the scale indicates 1±0.5graduation for the stroke of the solenoid lever after the pinch roller contacts the capstan shaft. Fig.2-4-3	(1) Turn the mode motor in the direction of loading (toward the rear side) to set the mechanism in the loading end state. (2) Turn the mode motor further in the same direction (rewarward) to move the pinch roller arm to the downmost position. (3) Push the solenoid lever (in the direction of the arrow) to make the pinch roller contact the capstan shaft. (4) Push the solenoid lever moreover from the position of the above step (3), and make sure that the stroke (additional movement of the solenoid lever) at that time is 1 ±0.5 graduation on the scale on the solenoid lever. (5) If the stroke is out of 1 ± 0.5graduation, loosen the setscrews and adjust the position of the solenoid lever to meet the requirement.

2.5 ADJUSTMENT OF REEL SERVO CIRCUIT

Note : The test point of D. FF output is TP102(:7G) on the AV PRE/REC board.

No.	Item	Adjustment & Check
	When setting back the cassette torque meter, make sure to do it in the Search (×11) mode. Don't do it in the FF, REW or Reel Search mode, otherwise the cassette torque meter may be damaged. **If the SHIFT(+) or SHIFT(−) button is pressed in torque adjustment, the torque changes about 2 gr-cm every time it is pressed.** **If the cassette torque meter reaches the tape end or the tape beginning in the following adjustment, make a fresh start from the step (1).** **Test points and adjustment parts appearing in the following are located on the SERVO/M-CTL board unless otherwise specified.**	
1	**Adjustment of tension sensor position**	(1) **Required jigs:** • **Spacer (0.1 mm) or the earth plate (PRD44276) on the sub-deck.** (2) Turn off the power switch and remove the cassette housing assembly. (3) Turn the mode motor counterclockwise (toward rear side) to set the mechanism in the loading end state. (4) Loosen the setscrew ① and adjust the tension sensor base position so that the its relative position to the cutout of the main deck is as shown in the figure. Then, tighten the setscrew ①. On fixing the tension sensor base, move it to the utmost end in the direction of the arrow. (5) Slightly loosen the setscrew ②. (6) Insert a spacer of 0.1 thick between the tension sensor and tension arm shaft as shown in the figure. Move the tension sensor in the diagonally frontward direction (as shown by the slant arrow) while adjusting the gap width to be 0.1 mm. Then, tighten the setscrew ②. (7) Apply screw sealant onto the setscrews ① and ②. (8) After the above adjustment, proceed to do the following adjustments. ① Adjustment of tension bias and gain (see 2.5.2) ② Adjustment of back tension in play mode (see 2.5.3) ③ Adjustment of reverse (×1 speed) torque (see 2.5.5) (9) When all of the above are over, reinstall the cassette housing to the mechanism.



— Positioning of tension sensor —
Move the tension sensor diagonally frontward at an angle of 45° while setting it so as to leave 0.1 mm gap between the shaft and the sensor.

— Installation of tension sensor base —
Move the tension sensor base in the arrow direction and fix it at a point where the cutout (shaded portion in the figure) of the main deck is exposed by 0.3 to 0.7 mm.

Fig.2-5-1 Positioning of tension sensor

No.	Item	Check point	Adjustment parts	Signal	Mode	Adjustment and Check
2	**Tension bias and gain adjustment**	TP22 :14D (MCTL/ SERVO)	R222 : 14B R214 : 14C (MCTL/ SERVO)	–	E-E	(1) Turn the mode motor counterclockwise by hand to set the mechanism into the loading end state. (2) Make sure that the tension arm moves to the limit and touches the guide roller. (3) Adjust R222 to obtain 0.00 to 0.10 V as the output of TP22. ***Note:*** ***The test points and VRs can be seen if the side cover (mechanism deck side) is taken off.*** (4) Utilizing the flat portion of the parallel check plate, align the supply guide rollers 1, 2 and tension pole in a straight line. (5) Adjust R214 to obtain 1.75 to 1.95 V as the output of TP22.

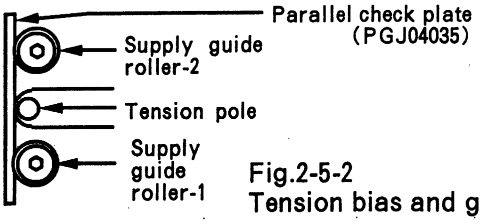
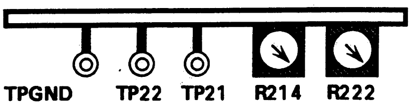


Fig.2-5-2
Tension bias and gain



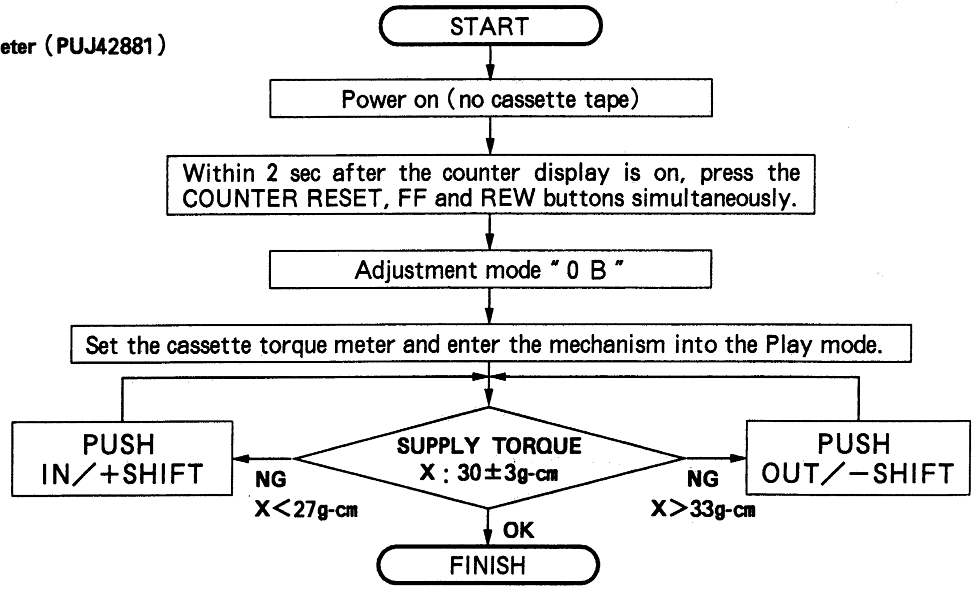
Arrangement of TPs and VRs on SERVO/M-CTL board
(Exposed portion when side cover is removed)

Note : The test point of D. FF output is TP102(:7G) on the AV PRE/REC board.

No.	Item	Check point	Adjustment parts	Signal	Mode	Adjustment and Check
3	**Back tension in play mode**	Cassette torque meter (PUJ42881)	IN/+SHIFT button (up) OUT/−SHIFT button (down)	—	adjut mode "0 C"	(1) Take the cassette tape out of the set and then turn off the power switch. (2) Within 2 sec after the counter display is on, press the COUNTER RESET, FF and REW buttons simultaneously and "00 00" appears in the counter display to indicate that the mechanism has entered the adjustment mode. (3) Connect a digital voltmeter to TP22 on the SERVO/M-CTL board. (4) Press the MENU or SET button to select the adjustment of "0C", which will appear in the counter display. (5) Set the cassette torque meter in the cassette housing and confirm that the back tension meets the specifications. (6) If not, adjust it again with the IN/+SHIFT (UP) or OUT/−SHIFT (DOWN) button. ***The following adjustments must be conducted when the spring of the tension arm is replaced.***
		TP22 :14D (MCTL/ SERVO)	Spring adjust lever	—	PB	(7) Make sure that the voltage at TP22 is 1.75 to 1.95 V_{DC}. (PB mode) (8) If not, loosen the screw retaining the spring adjusting lever for the following adjustment. ① When voltage at TP22 is above 1.95 V_{DC}. Fine adjust the spring adjust lever with an ordinary screwdriver so as to move it slightly rearward. ② When voltage at TP22 is under 1.75 V_{DC}. Fine adjust the spring adjust lever with an ordinary screwdriver so as to move it slightly frontward. (9) Check the above steps (5), (6) and (7), and repeat the above adjustments until back tension meets the specific value.
4	**Loading torque** **Adjust loading torque according to the following procedure.** **Required instrument** **• Cassette torque meter (PUJ42881)**					

MODEL	BACK TENSION
BR-S800	**58±2 g-cm**
BR-S500	**63±2 g-cm**

Table2-5-1 Table of back tension


START
Power on (no cassette tape)
Within 2 sec after the counter display is on, press the COUNTER RESET, FF and REW buttons simultaneously.
Adjustment mode " 0 B "
Set the cassette torque meter and enter the mechanism into the Play mode.
SUPPLY TORQUE
X : 30±3g-cm
NG
X<27g-cm
PUSH IN/+SHIFT
NG
X>33g-cm
PUSH OUT/−SHIFT
OK
FINISH

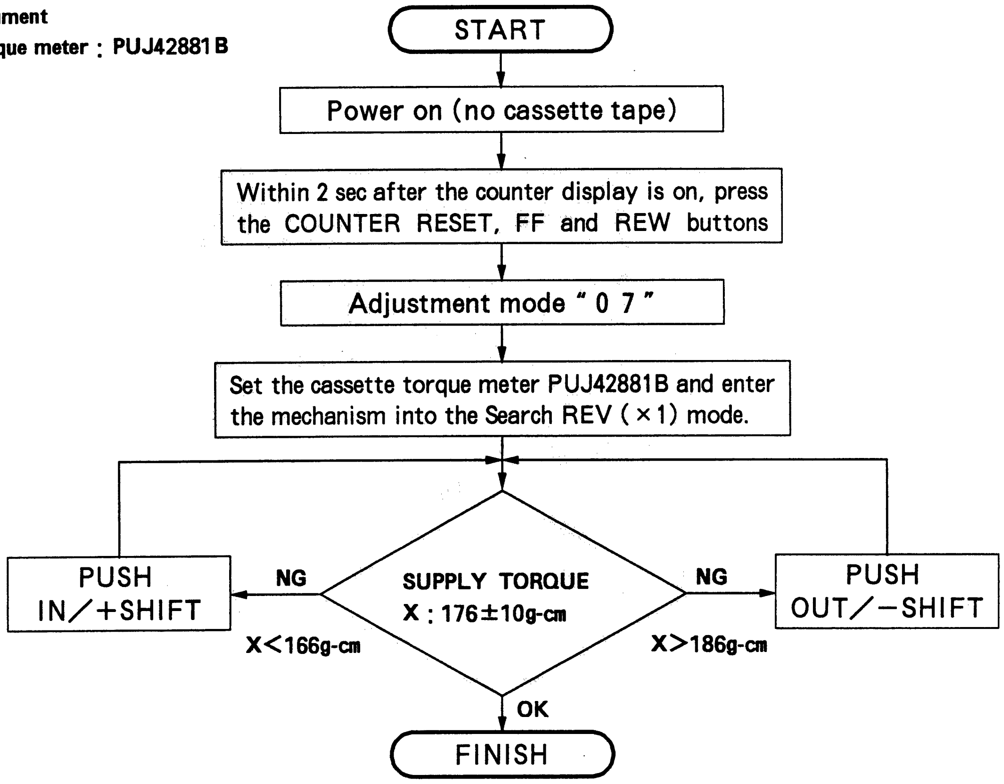
No.	Item	Check point	Adjustment parts	Signal	Mode	Adjustment and Check

5 **Reverse (×1 speed) torque**

Adjust reverse torque according to the following procedure.

Required instrument

- **Cassette torque meter : PUJ42881B**

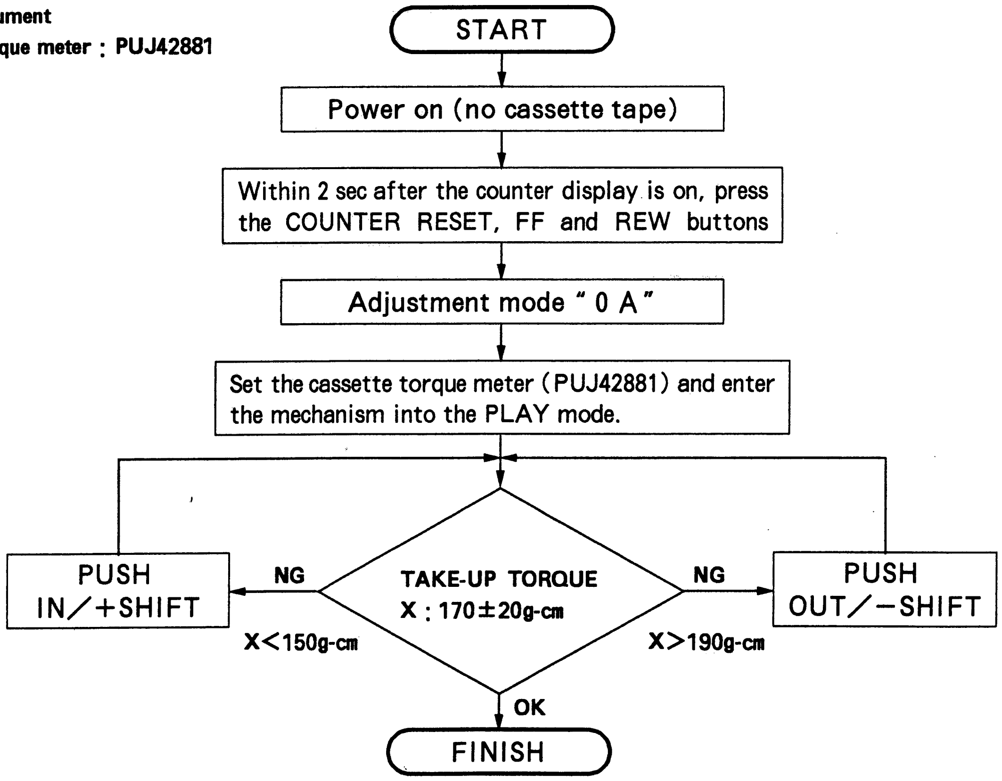

START
Power on (no cassette tape)
Within 2 sec after the counter display is on, press the COUNTER RESET, FF and REW buttons
Adjustment mode " 0 7 "
Set the cassette torque meter PUJ42881B and enter the mechanism into the Search REV (× 1) mode.
PUSH IN/+SHIFT
NG
SUPPLY TORQUE X : 176±10g-cm
NG
PUSH OUT/−SHIFT
X<166g-cm
X>186g-cm
OK
FINISH

6 **Take-up torque**

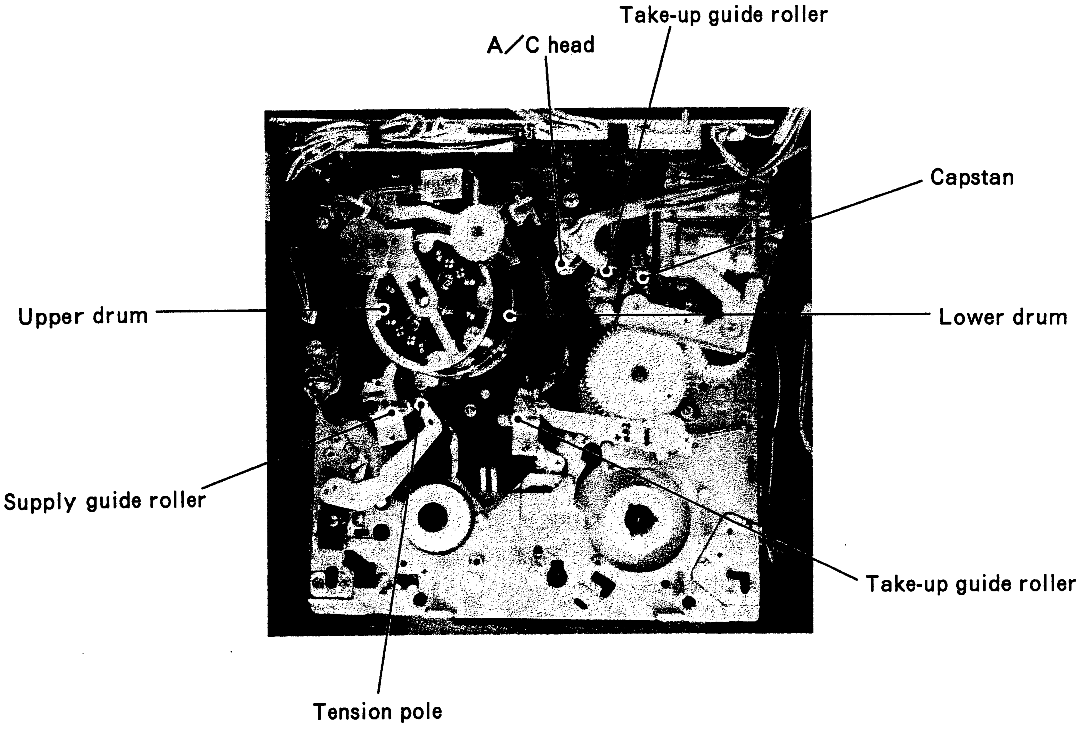
Adjust Take-up torque according to the following procedure.

Required instrument

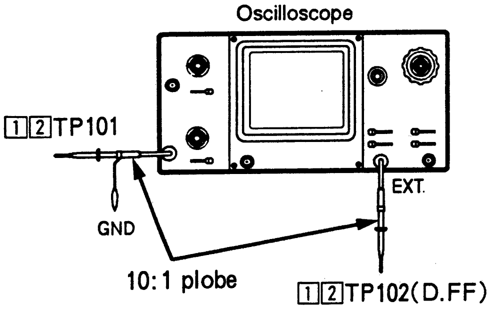
- **Cassette torque meter : PUJ42881**


START
Power on (no cassette tape)
Within 2 sec after the counter display is on, press the COUNTER RESET, FF and REW buttons
Adjustment mode " 0 A "
Set the cassette torque meter (PUJ42881) and enter the mechanism into the PLAY mode.
PUSH IN/+SHIFT
NG
TAKE-UP TORQUE X : 170±20g-cm
NG
PUSH OUT/−SHIFT
X<150g-cm
X>190g-cm
OK
FINISH

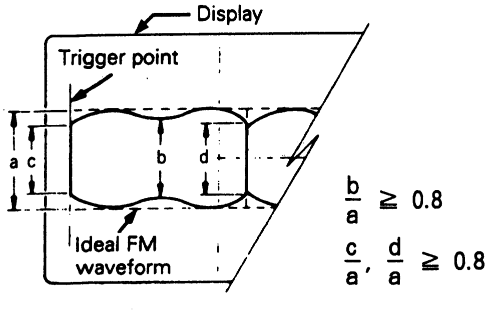
2.6 ADJUSTMENT OF INTERCHANGEABILITY

<table>
<tr><th>No.</th><th>Item</th><th>Adjustment & Check</th></tr>
<tr><td>1</td><td colspan="2">When the upper drum assembly, drum assembly, or A/C head assembly is replaced, adjustment of the interchangeability must be conducted.
Names and locations of main parts


Take-up guide roller
A/C head
Capstan
Upper drum
Lower drum
Supply guide roller
Take-up guide roller
Tension pole

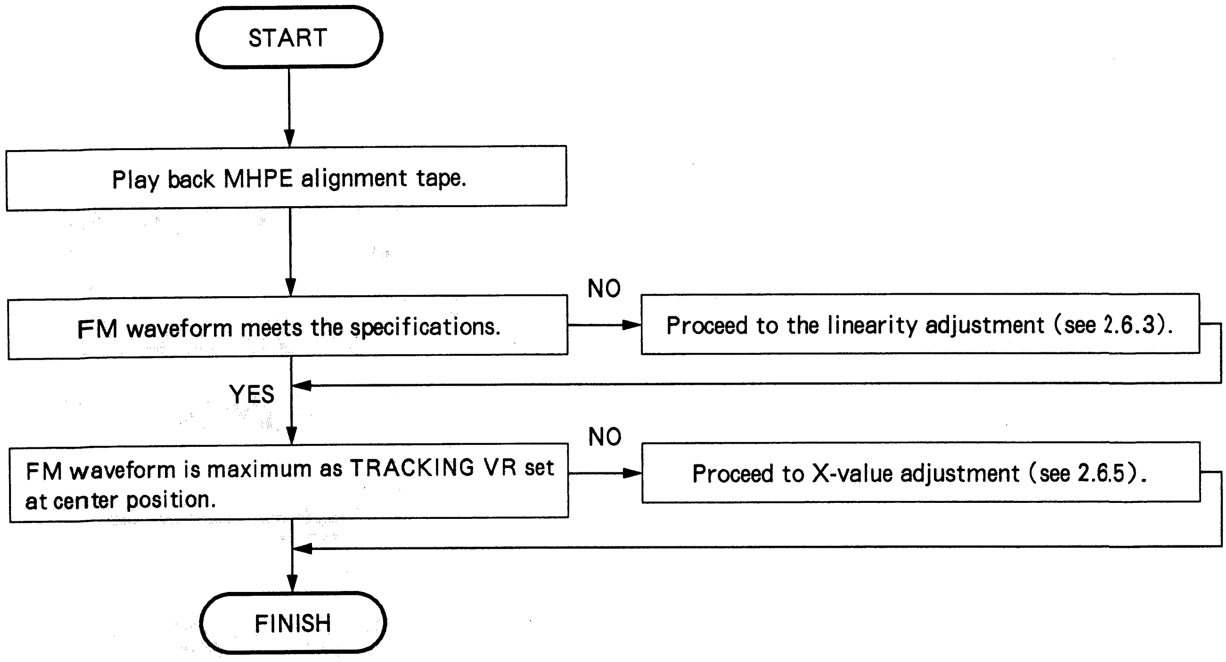
Fig.2-6-1 Names and locations of main parts</td></tr>
<tr><td>2</td><td>Check of FM waveform


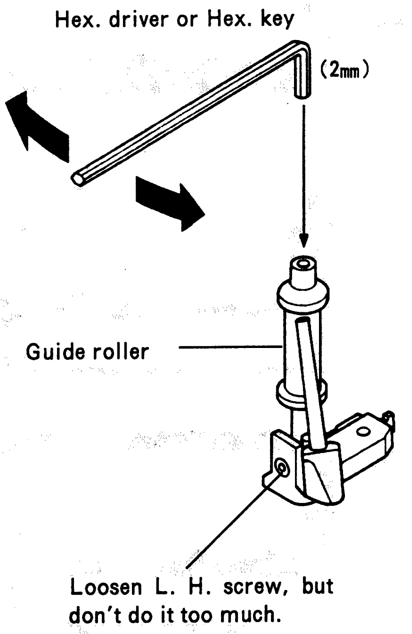
Oscilloscope
[1][2]TP101
GND
EXT.
10:1 plobe
[1][2]TP102(D.FF)

Fig.2-6-2 Connection of oscilloscope


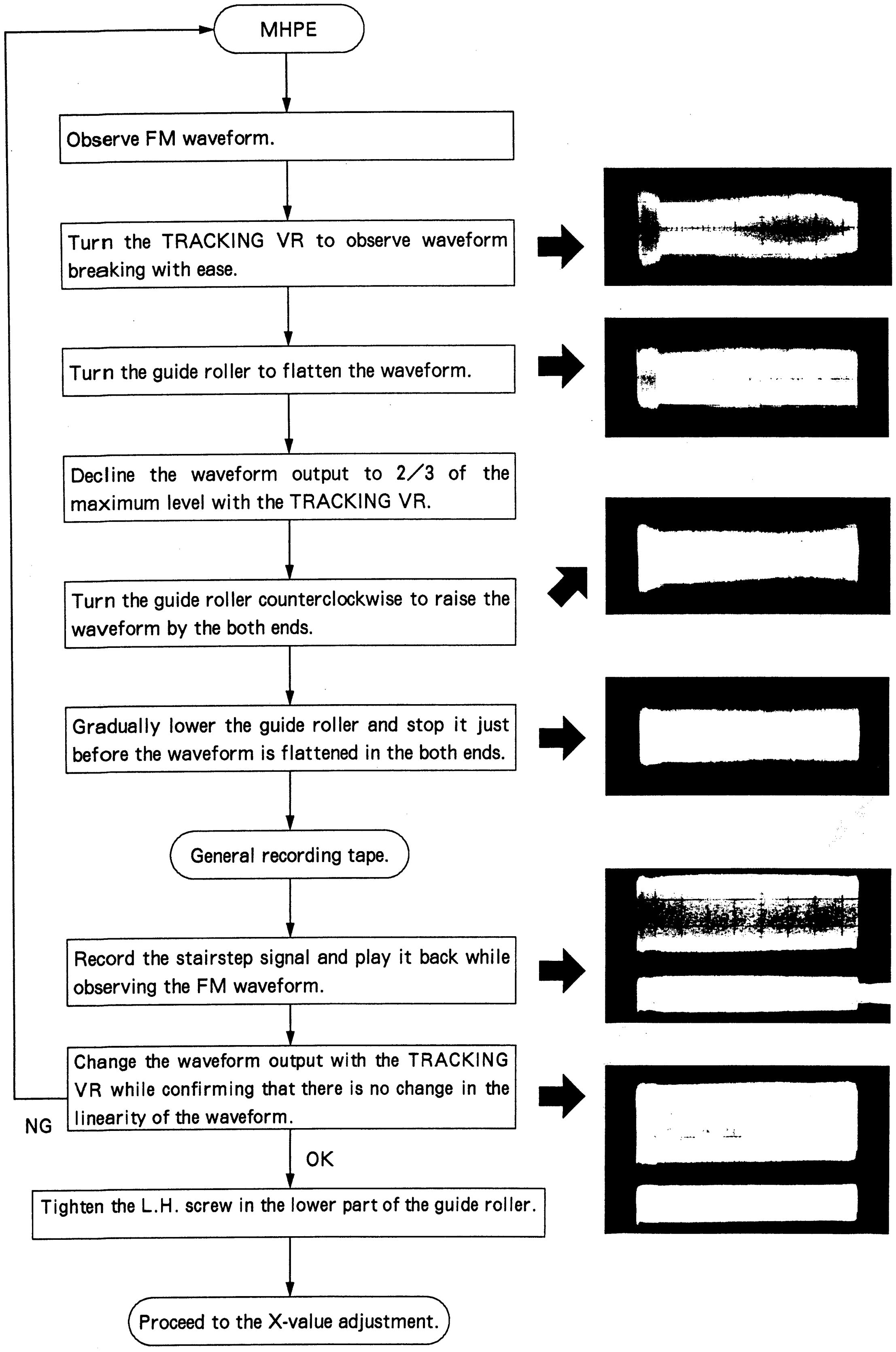
Display
Trigger point
a
c
b
d
Ideal FM waveform
b/a ≧ 0.8
c/a, d/a ≧ 0.8

Fig.2-6-3 FM waveform</td><td><i>Note:</i>
<i>Before loading the alignment tape, load a general recording tape and check that there is no trouble with tape transport.</i>
(1) Connect the oscilloscope to TP101(:8F) on the [1][2] AV PRE/REC board and trigger it externally with the signal of TP102(:7G) on the same board, and observe the waveform on the ⊕ slope.
(2) Play back the MHPE alignment tape while maximizing the FM waveform with the TRACKING VR. As the maximum level is regarded as "a", confirm that respective levels meet the specifications as expressed by the equations.
(3) When the maximum level "a" is set for 4 scale divisions on the oscilloscope screen, levels "b", "c" and "d" must be equivalent to 3.2 scale divisions.
(4) To set the maximum level "a" for 4 scale divisions, adjust the GAIN control of the oscilloscope as the TRACKING VR is set at the maximum position.</td></tr>
</table>

No.	Item	Adjustment & Check
	 START Play back MHPE alignment tape. FM waveform meets the specifications. NO Proceed to the linearity adjustment (see 2.6.3). YES FM waveform is maximum as TRACKING VR set at center position. NO Proceed to X-value adjustment (see 2.6.5). FINISH	

3	**Interchangeability adjustment**
	— Linearity adjustment —
	 Hex. driver or Hex. key
	(2mm)
	Guide roller
	Loosen L. H. screw, but don't do it too much.
	Fig.2-6-4
		(1) Cautions on adjustment
		• For linearity adjustment, play back the MHPE alignment tape.
		• If FM dropout still continues after adjustment of the guide roller, the drum assembly needs replacement (in the case the CH1 and CH2 waveforms show the same tendency).
		• An FM waveform with worn-out lower drum is shown in the section (2.3.5) of the drum assembly replacement.
		• Required tools:
		  • Hex driver : PGJ04034 (2mm)
		  • Line Head wrench : PGJ04033

No.	Item	Adjustment & Check


MHPE
Observe FM waveform.
Turn the TRACKING VR to observe waveform breaking with ease.
Turn the guide roller to flatten the waveform.
Decline the waveform output to 2/3 of the maximum level with the TRACKING VR.
Turn the guide roller counterclockwise to raise the waveform by the both ends.
Gradually lower the guide roller and stop it just before the waveform is flattened in the both ends.
General recording tape.
Record the stairstep signal and play it back while observing the FM waveform.
Change the waveform output with the TRACKING VR while confirming that there is no change in the linearity of the waveform.
NG
OK
Tighten the L.H. screw in the lower part of the guide roller.
Proceed to the X-value adjustment.

No.	Item	Adjustment & Check
4	**Adjustment of A/C head**	

If the A/C head is incorrectly positioned, it causes dropdown of audio output or deterioration in its S-to-N ratio, or misaligned servo resulting from failure in picking up control signals in the worst case when a recorded tape is playback.

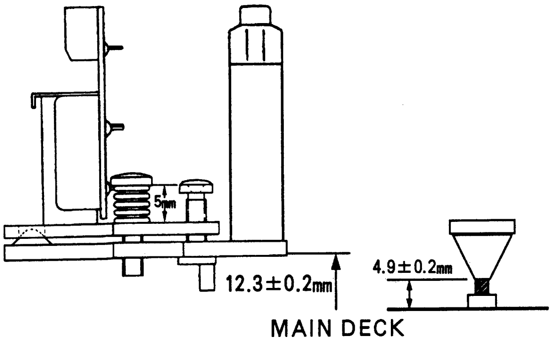


Fig.2-6-5 Adjustment of A/C head height

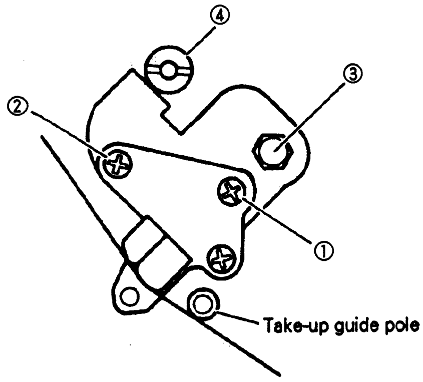


Fig.2-6-6

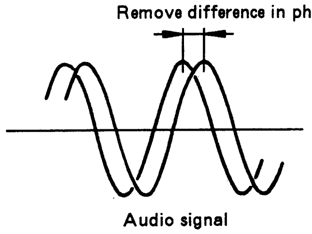


Fig.2-6-7

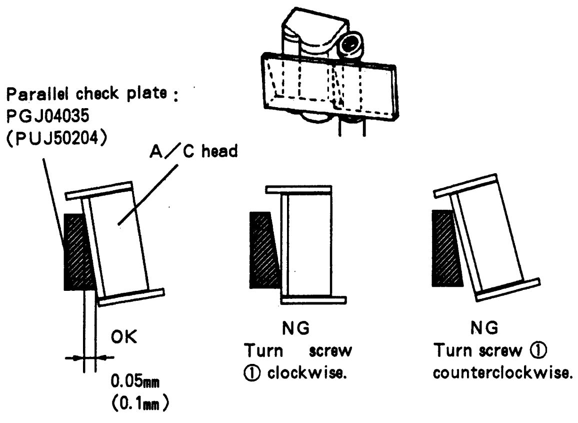


Fig.2-6-8 Parallel check

(1) **Required jig**
- Nut driver : 5.5mm
- Alignment tapes : MBAE-3,MHPE,MBAE
- Parallel check plates : PGJ04035(0.05), PUJ50204(0.1)

(2) **Temporary check of A/C head height**

① In the stage of tape transport check preparatory to A/C head adjustment, temporarily adjust the A/C head height to prevent the tape from getting damaged as well as to conduct the adjustment with ease.

(3) **Tilt (forward bent) adjustment**

① Adjust the setscrew ① so that the A/C head closely contacts the parallel check plate surface with a tilt equivalent to 0.05mm on the base line of the plate. If there is a space between them in the upper part, the tilt is small. In that event, tighten the setscrew ① to tilt the A/C head much more. On the other hand, if there is a space in the lower part, loosen the setscrew ① to decrease the A/C head in tilt.

② Check that the tape is not damaged and wrinkled at the lower flange of the take-up guide pole. If so, fine adjust the height of the take-up guide pole.

(4) **Head height and azimuth adjustment**

① Connect CH1 of the oscilloscope with TP1 on the N. AUDIO board while CH2 with the TP2 on the same board, and set the oscilloscope to the chop mode.

② Play back the MBAE-3 alignment tape while adjusting the A/C head height by turning the hex. nut ③ so as to minimize both output levels of CH1 and CH2. (Height adjustment)

③ Play back the MHPE alignment tape while adjusting the setscrew ② to match output waveforms of CH1 and CH2 in the phase as well as to maximize output level of both the channels. (Azimuth adjustment)

④ Repeat the steps (2) and (3) alternately for finer adjustment.

(5) **Azimuth check**

① Connect CH1 of the oscilloscope with TP1 on the N. AUDIO board while CH2 with TP2 on the same board, and set the oscilloscope to the chop mode.

② Play back the MBAE alignment tape while confirming that there is no phase difference (less than 0.1msec) in the output waveforms of CH1 and CH2. If there is a phase difference more than 0.1msec, repeat the height and azimuth adjustment (4) above.

(6) **A/C head parallel check**

① With the parallel check plate (PUJ50204), make sure that the tilt of the A/C head is less than 0.1mm on the base line of the check plate.

② If not, repeat the above adjustments (3) through (6) until a satisfactory result is obtained.

Test points on N. AUDIO board with addresses

	BR-S800	BR-S500
TP1	6E	4A
TP2	11E	7A

No.	Item	Adjustment & Check

5 **X-value adjustment**

If the X-value is maladjusted, it results in time lag between picture and normal sound when playing back a tape recorded by a set whose X-value is correctly adjusted.

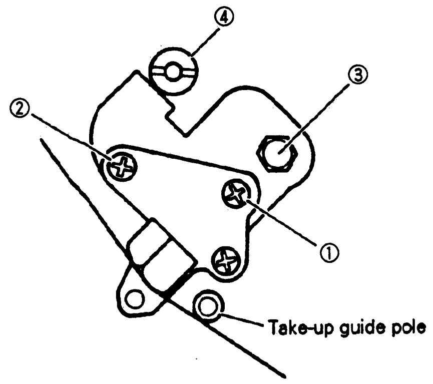


Fig.2-6-9

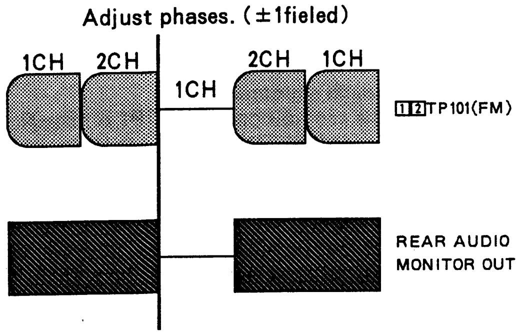


Fig.2-6-10 X-value adjustment

- **Synchronization of oscilloscope**

① Set the oscilloscope's sweep time to 10msec.

② In the condition being synchronized with D. FF signal, turn the oscilloscope's HOLD OFF knob in the ⊕ direction to stabilize non-recorded portion.

③ Use the oscilloscope prove of the 10:1 ratio.

(1) **Required jig**

- Ordinary screwdriver (⊖)
- Alignment tapes : MBPE-X, MHPE

(2) **X-value adjustment**

① Connect CH1 of the oscilloscope with TP101(:8F) on the $\boxed{1}\boxed{2}$ AV PRE/REC board while connect CH2 with the AUDIO MONITOR terminal on the rear panel. Set the AUDIO MONITOR switch on the front panel to the NORM AUD-1/L position.

② Trigger the oscilloscope externally with signal of TP102(:7G) on the $\boxed{1}\boxed{2}$ AV PRE/REC board.

③ Play back a self-recorded tape while confirming that the FM waveform is maximum with the TRACKING VR set to the center position. If not, check to see if the tracking is correctly adjusted .

Note :

If not, fine adjust the tracking preset explained in the previous item, step (3).

④ Set the TRACKING VR to the center position.

⑤ Play back the MBPE-X alignment tape.

⑥ Adjust the taper nut ④ to maximize the FM output as well as to match the non-recorded portions of AUDIO and FM outputs in the phase (±1 field).

⑦ Play back the MHPE alignment tape while confirming that the FM waveform is maximum with the TRACKING VR set to the center position.

⑧ If the result of the above step ⑦ is unsatisfactory, slide the A/C head to a point where the FM waveform is maximum near the point set in the above step ⑥.

⑨ Play back the MHPE alignment tape while confirming that the FM waveform is maximum with the TRACKING VR set to the center position.

(3) **Tracking preset adjustment**

① Take the cassette tape out of the set, and then turn off the power switch.

② Turn on the power switch again, and press the EJECT and STOP buttons simultaneously within 2 sec after the counter indicator is on.

③ When "OPEn" appears in the counter display, press the IN/+SHIFT button 8 times, and then "Tr-Adj" will appear in the counter display.

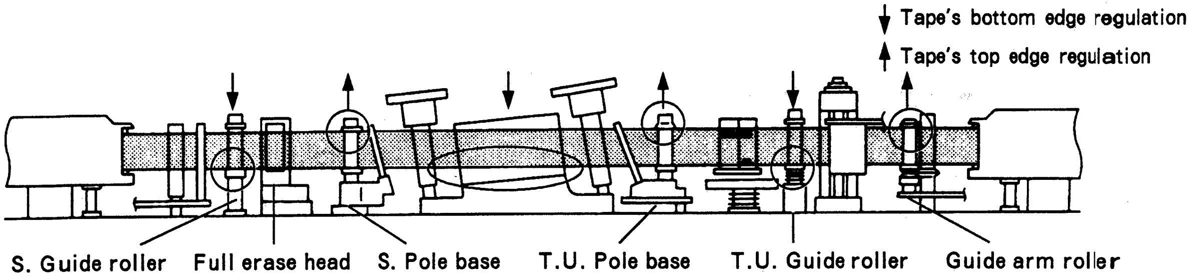
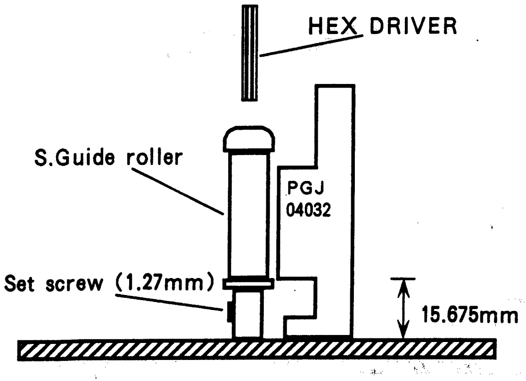
④ Set the TRACKING VR to the center click position.

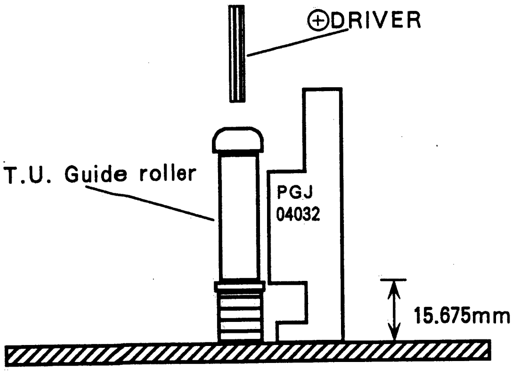
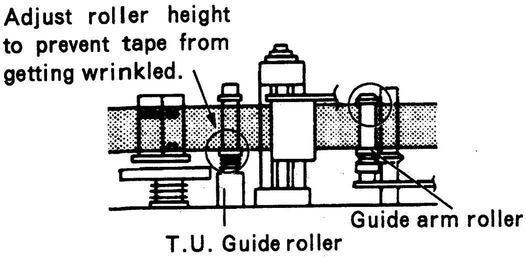
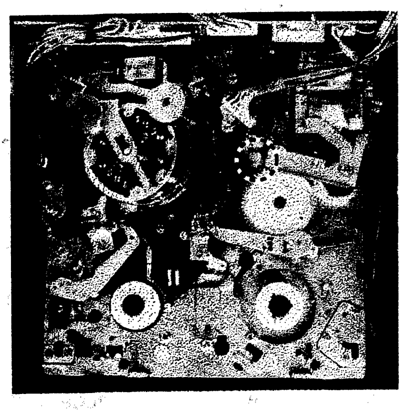
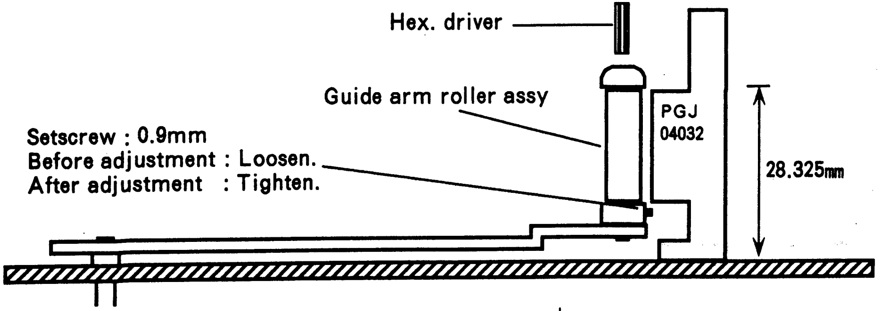
⑤ Press the SET button to set adjustment data.

⑥ Press the IN/+SHIFT button repeatedly until "OPEn" appears in the counter display.

⑦ Press the MENU button.

2.7 ADJUSTMENT OF TAPE TRANSPORT SYSTEM

<table>
<tr><th>No.</th><th>Item</th><th>Adjustment & Check</th></tr>
<tr><td></td><td colspan="2">Generally, the tape transport system has no need of adjustment since it has precisely been adjusted before the set is shipped from factory.
However, it needs check and adjustment after long time use and parts replacement of the tape transport system.</td></tr>
<tr><td>1</td><td>Check of tape transport system</td><td>(1) Required implements
• Tin tape : SE-240
(2) Load a thin tape, and conduct the following checks at the beginning and end portions of the tape.
(3) Repeat loading and unloading operations while confirming that the tape is neither damaged nor wrinkled at the take-up guide roller, guide pole, guide arm roller.
(4) Do the same check in the Play, FWD and REV modes, respectively.</td></tr>
<tr><td></td><td colspan="2">
Tape's bottom edge regulation
Tape's top edge regulation
S. Guide roller
Full erase head
S. Pole base
T.U. Pole base
T.U. Guide roller
Guide arm roller
Fig.2-7-1 Check of tape transport</td></tr>
<tr><td>2</td><td>Supply guide roller height adjustment

HEX DRIVER
S.Guide roller
PGJ 04032
Set screw (1.27mm)
15.675mm
Fig.2-7-2 Supply guide roller height</td><td>(1) Required implements
• Height gauge : PGJ04032
• Hex. driver : PGJ04034
• Hex. key : 1.27mm
• Thin tape : SE-240
(2) Set the height gauge on the main deck, and check the height of the upper surface of the lower flange of the guide roller.
(3) If it needs adjustment, loosen the setscrew under the guide roller and then adjust the guide pole with a hex. driver.
(4) Forwarding a thin tape in the Play mode, fine adjust the height of the guide roller so that the tape smoothly travels on the upper side of the lower flange of the guide roller.
(5) Next, transport the tape in the REV mode while confirming the tape getting no damage. If the tape is damaged, decrease the height of the guide pole by turning the setscrew within a turn from the position that is set in the above step (3).
(6) Tighten the setscrew.
(7) Again check the tape running smoothly.</td></tr>
</table>

No.	Item	Adjustment & Check
3	**Take-up guide roller height adjustment**  ⊕DRIVER T.U. Guide roller PGJ 04032 15.675mm Fig.2-7-3 Ttake-up guide roller height  Adjust roller height to prevent tape from getting wrinkled. Guide arm roller T.U. Guide roller Fig.2-7-4 Tape transport check	(1) **Required implements** **• Height gauge : PGJ04032** **• Thin tape : SE-240** (2) Set the height gauge on the main deck and check the height of the upper surface of the lower flange of the guide roller. (3) If it needs adjustment, adjust the height of the guide roller by turning the setscrew on the top of the guide roller. (4) Transporting a thin tape in the Play, Search FWD and Play modes in this order, check and adjust the height of the guide roller so that the tape is not wrinkled nor damaged at the lower flange of the guide roller. However, do not turn the setscrew more than 3/4 turn from the position that is set in the step (3). (5) Again check the tape running smoothly.
4	**Guide arm roller height adjustment**  Fig.2-7-5  Hex. driver Guide arm roller assy Setscrew : 0.9mm Before adjustment : Loosen. After adjustment : Tighten. PGJ 04032 28.325mm Fig.2-7-6	(1) **Required implements** **• Height gauge : PGJ04032** **• Hex. driver : PGJ04034** **• Hex. key : 0.9mm** **• Thin tape : SE-240** (2) Turn off the power. (3) As shown in the dotted circle, set the height gauge on the main deck's cutout neighboring the capstan motor in the right side. (4) Turn the loading motor counterclockwise by hand while checking the height of the lower surface of the upper flange of the guide arm roller. (5) If adjustment is needed, turn the setscrew on the top of the guide arm roller to adjust its height. (6) Transporting a thin tape in the FWD and REV modes, check that there is no change in the tape transport level at the lower flange of the take-up guide roller even when the mode is changed between the FWD and REV. (See Fig. 2-7-4.) (7) If the tape is damaged or wrinkled, repeat the above steps (2) through (6) until that smooth tape transport is confirmed.

SECTION 3
ELECTRICAL ADJUSTMENT

3. 1 PRECAUTIONS

Before proceeding to any electrical adjustment, it is the first prerequisite to confirm that the objective item is out of order or of breakdown. Moreover, for parts and items that need correct mechanical adjustment prior to electrical adjustment, begin by confirming that they are exactly mechanically adjusted.
Make sure to start electrical adjustment 5 or more minutes after the power is turned on.
Before starting any adjustment, make sure to reset the MENU switch to the initial setting that was set at shipment. (See Section 7.) Then, if there is a direction to set the MENU switch specially for the adjustment item in the head of a page or the beginning of an adjustment item, change the setting of the MENU switch according to the direction.

3.1.1 Required tools and test instruments

- Frequency counter (sensitivity range between 10MHz or more and 100mV or less)
- Video signal generator (TG-7/2, Model 1411, or equivalent)
- Waveform monitor (1485R, or equivalent)
- Digital voltmeter (available for 1 mV$_{DC}$ or under)
- Sweep signal generator
  (100kHz to 10MHz, Model-430P*[1], or equivalent)
- Oscilloscope*[2]
  (dual-trace type, available for 50MHz or more)
- Vectorscope (521A, or equivalent)
- TV monitor
- Audio tester

Besides the above-mentioned instruments, the following special instruments are needed.

*1 : VC-G30U/VC-G40U cable (optional) to supply Y/C443 output of the Model430P to this set.
*2 : Use an oscilloscope probe of 10:1 ratio unless otherwise specified.

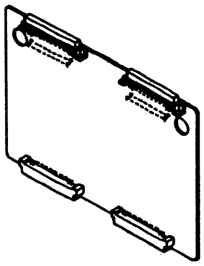
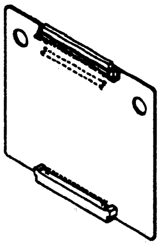
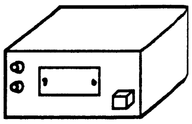
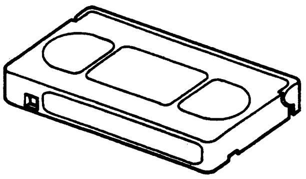
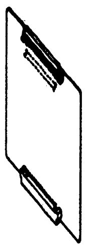
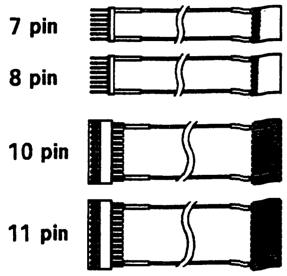
Extension boards		Carrier checker
1. PGJ05043 for VIDEO-1, VIDEO-2, FM AUDIO, NORMAL AUDIO, AV I/O boards 	2. PGJ05006 for SYSCON board 	PGJ05008-2 
Alignment tape	**Extension boards**	**Patch cords**
See page 3-2. 	PRK10157A5 for AV PRE/REC board 	PGJ05020 for BURST ADD board  **Note :** 7pins and 8pins patch cords are not used for BR-S800E/BR-S500E

Fig.3-1-1 Required special implements

3.1.2 Specification of alignment tapes

•MHPE

Video signal	Audio signal	Application	Remark
VHS (SP mode) Stairstep	6kHz	•For check and adjustment of interchangeability. •For adjustment of PB switching point.	MH-2 stairstep signal is substitutable.

•MHVE-2

Video signal	Audio signal	Application	Remark
VHS (SP mode) Color bar	–	•For check and adjustment of video PB circuit.	MH-2 color bars signal is substitutable.

•MBAE(MHAE)

Video signal	Audio signal	Application	Remark
CTL signal only	1kHz(0dB)	•For check and adjustment of audio PB circuit.	MH-1 1 kHz signal is substitutable.

•MH-8

No.	Play-Back time	Video signal	Audio signal	Application
1	2 minutes	Color sweep	400Hz(–20dB)	•For check and adjustment of frequency response of video PB circuit. •For check and adjustment of frequency response of audio PB circuit.
2	2 minutes	Color sweep	100Hz(–20dB)	
3	2 minutes	Color sweep	10kHz(–20dB)	
4	4 minutes	Color sweep	–	

•MH-F8

No.	Play-Back time	Video signal	Audio signal	Application
1	5 minutes	–	Carrier only	For check and adjustment of interchangeability of mechanism.
2	5 minutes	Stairstep	Carrier only	
3	5 minutes	–	1kHz (±50kHz DEV)	For check and adjustment of FM audio PB circuit.

•MHVE-2H

Video signal	Audio signal	Application	Remark
S-VHS (SP mode) Color bar	–	•For check and adjustment of video PB circuit.	MH-2 SP mode color bar signal is substitutable.

•MBVE-3H

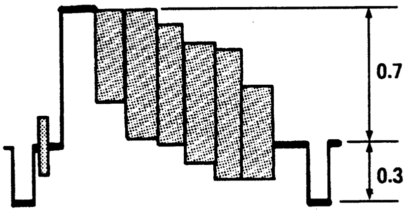
Video signal	Audio signal	Application	Remark
S-VHS (SP mode) Sweep signal	–	•For check and adjustment of video frequency response.	MHVE-3H is renamed.

•MBAFE-2

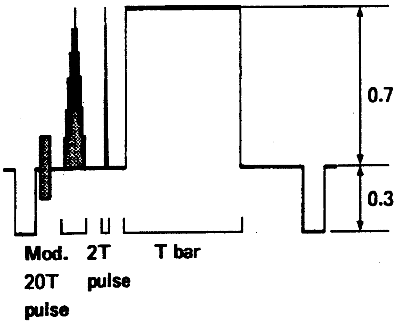
Video signal	Audio signal	Application	Remark
Carrier only (4MHz)	1KHz (±50KHz DEV)	•For check and adjustment of FM audio PB circuit.	–

3.1.3 Signals required for video system adjustment

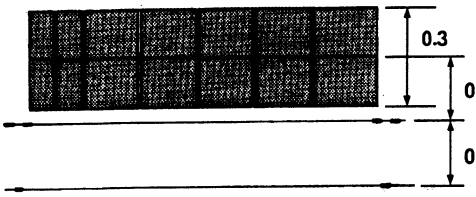
(1) **EBU 75% color bar**



(2) **Pulse & bar signal**

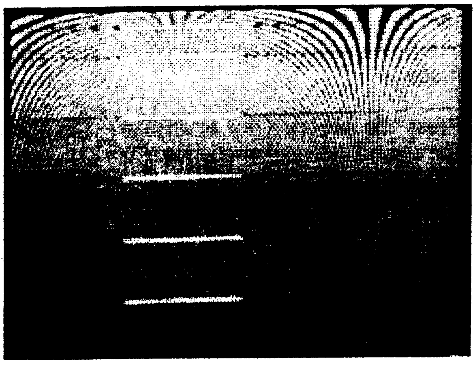


(3) **Video sweep signal (100k to 5MHz)**



To input this signal through the LINE IN terminal, make sure to use a sweep signal well-balanced in H. correlation in order to avoid malfunction of the comb filters.

For a reference, a sweep signal having a good H. correlation shows such a clear pattern as neighboring black and white lines are the same in the width and interval on the monitor screen as shown in the figure below.



3.1.4 Explanation of main columns in check and adjustment table.

(1) **"Check Point" column**

Check point
TP3 : 3E (FM AUDIO) ↓ Digital voltmeter

The Check Point column indicates measuring instruments to be used and test points to connect measuring instruments (use and connection of oscilloscope are omitted).

Symbol (consisting of numeral and alphabet) following the symbol of a test point and colon indicates a section of the specified board where the test point is located.

In case of the above sample, TP3 is located in the section 3E of the FM AUDIO board, and TP3 should be connected with a digital voltmeter.

When a terminal on the rear board is indicated in the Check Point column, connect a measuring instrument directly to the terminal.

(2) **"Signal" column**

Signal
1kHz/ −6dBs ↓ N. AUDIO IN

The Signal column indicates signals to input and terminals to input the signal. (When no input terminal is indicated, input signal through the LINE IN terminal.)

Note:

When the Y/C443 terminal is specified as an input terminal, set the VIDEO INPUT switch on the front panel to the Y/C443 position.

In case of the above sample, input a 1kHz, −6dBs signal through the NORMAL AUDIO INPUT terminal.

When adjustment requires to play back an alignment tape to supply input signal, the part number of a required alignment tape is indicated in this column.

(3) **"Mode" column**

Mode
REC S-VHS ↓ PB

The Mode column indicates operation modes for adjustment.

The above sample indicates to play back a tape that is recorded in the S-VHS mode for adjustment.

When Adjust mode "× ×" is appearing in this "Mode" column, enter the set into the "× ×" mode as specified, since the BR-S800E/BR-S500E is provided with some automatic adjustment modes for electrical adjustment.

For detail of the automatic adjustment mode, refer to the section 7.5.

3. 2 POWER SUPPLY CIRCUIT

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Regulator voltage**	TP2 (REGULATOR)	R74 (REGULATOR)	–	REC	(1) Adjust R74 so that voltage at TP2 is 5.10±0.05V$_{DC}$. ***Note:*** ***For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it thas no INPUT terminal.***
		TP1 (REGULATOR)	R41 (REGULATOR)	–	REC	(1) Adjust R41 so that voltage at TP1 is 12.10±0.05V$_{DC}$. ***Note:*** ***For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it thas no INPUT terminal.***

3. 3 SERVO CIRCUIT

- ***The test point of D-F.F. output is TP102(:7G) on the [1][2] AV PRE/REC board.***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Duty factors of FG pulses & Stop servo (automatic adjustment)**	–	–	–	Adjust mode "0 4"	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Press the MENU (+) or SET (–) button to set for the adjustment mode No. "04". (3) Press the SHIFT(+) or SHIFT(–) button and the reel motor, capstan motor and drum motor take turns at rotating to perform automatic adjustment. (4) With completion of the automatic adjustment, every motor stops and "End" appears in the counter display.
2	**PB Switching point**	TRACKING METER	TRACKING VR	MHPE	Adjust mode "0 F"	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Press the MENU (+) or SET (–) button to set for the adjustment mode No. "0F". (3) Play back the MHPE alignment tape while adjusting the TRACKING VR so that the TRACKING METER reads the signal level to the maximum. (4) Press the SHIFT(+) or SHIFT(–) button and automatic adjustment starts. (5) With completion of the automatic adjustment, every motor stops and "End" appears in the counter display.

3. 4 AUDIO CIRCUIT

3.4.1 Manual adjustment

- ***For adjustment of the audio circuit, select "OFF(0)" for setting the "LIMITER" of the MENU switch No. 202.***

<table>
<tr><th>No.</th><th>Item</th><th>Check point</th><th>Adjustment</th><th>Signal</th><th>Mode</th><th>Check and Adjustment</th></tr>
<tr><td>1</td><td>Hi-Fi audio carrier frequency</td><td>TP1 : 7A
(FM AUDIO)
↓
Frequency counter</td><td>R57 : 7A
(FM AUDIO)</td><td>No signal input</td><td>REC
VHS</td><td>(1) Set the MENU switch No. 200 to "ON" position.
(2) Adjust R57 to obtain 1.400 MHz as the frequency of TP1 signal.</td></tr>
<tr><td></td><td></td><td colspan="4">L-ch carrier frequency : 1.400±0.002MHz</td><td></td></tr>
<tr><td></td><td></td><td>TP2 : 7A
(FM AUDIO)
↓
Frequency counter</td><td>R58 : 8A
(FM AUDIO)</td><td>No signal input</td><td>REC
VHS</td><td>(3) Adjust R58 to obtain 1.800 MHz as the frequency of TP2 signal.</td></tr>
<tr><td></td><td></td><td colspan="4">R-ch carrier frequency : 1.800±0.002MHz</td><td></td></tr>
<tr><td>2</td><td colspan="6">Conduct automatic adjustment of the AUDIO circuit. (See the following page for detail.)
To conduct automatic adjustment of the audio circuit, proceed as follows.
• After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons at the same time.
• "00 00" appears in the counter display.
• Insert a required tape.
• Press the MENU (+) or SET (−) button to select an automatic adjustment mode by number.
• Press the COUNTER RESET button and automatic adjustment starts with indication of "P" in the counter display.
• As the automatic adjustment finishes, the tape is automatically ejected and "End" appears in the counter display.
<i>Note : When "Error" is displayed, no adjustment is performed and the previous adjustment data is recovered.</i></td></tr>
<tr><td>3</td><td>Hi-Fi AUDIO LEVEL METER</td><td>HiFi AUDIO OUT
(600Ω terminator)
↓
Audio level meter</td><td>R71 : 3G
(Lch)
R72 : 2G
(Rch)
(AV I/O)</td><td>1kHz/
−6dBs
↓
HiFi AUDIO IN</td><td>E-E</td><td>(1) With the HiFi REC LEVEL VR adjust the output from the HiFi AUDIO output terminal to be −6.0 (±0.3)dBs.
(2) Set the AUDIO MONITOR switch to the HiFi position.
(3) Set the METER SELECT switch to the AUD-2/R position.
(4) Adjust R71 (for L-ch) and R72 (for R-ch) so that the AUDIO LEVEL METER reads 0.0dB as viewed from the right front.
<i>Note:</i>
<i>For adjusting the BR-S500E in this item, play back the alignment tape MBAFE-2 or the 1kHz segment of MH-F8 tape.</i></td></tr>
</table>

3.4.2 Automatic adjustment

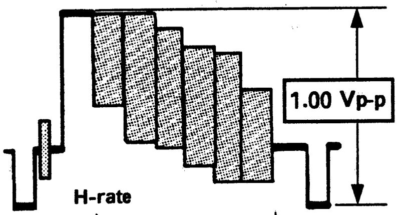
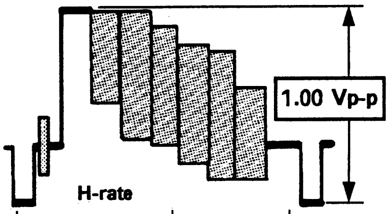
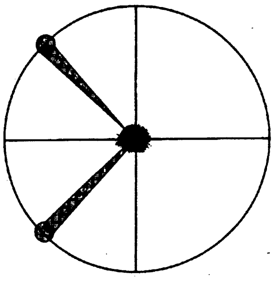
- ***For adjustment of the audio circuit, select "OFF(0)" for setting the "LIMITER" of the MENU switch No. 202.***

No.	Item	Check point	Adjust-ment	Tape "A"	Mode "B"	Check and Adjustment
1	**Normal Audio PB level**	–	–	MBAE	Adjust mode "1 8"	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Load the set with the alignment tape and press the MENU(+) or SET(–) button to select the adjustment mode "B". (3) Press the COUNTER RESET button and automatic adjustment starts with indication of "P" in the counter display. (4) With completion of the automatic adjustment, the tape is automatically ejected and "End" appears in the counter display.
2	**Normal Audio PB frequency response**	–	–	MH-8	Adjust mode "1 9"	
3	**Hi-Fi Audio PB level**	–	–	MH-F8 (1kHz) or MBAFE-2	Adjust mode "1 A"	
4*	**BR-S800E Normal Audio REC/PB level**	–	–	S-VHS DC	Adjust mode "1 B" S-VHS	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Load the set with an S-VHS cassette tape and press the MENU(+) or SET(–) button to select the adjustment mode No."1B". (3) Press the COUNTER RESET button. (4) With completion of the automatic adjustment, the tape is automatically ejected and "End" appears in the counter display.
				VHS DC	Adjust mode "1 B" VHS	(5) Change the tape with a VHS cassette tape and proceed to do the same adjustment for the VHS mode as for the S-VHS mode carried out in the above steps.
5*	**BR-S800E Normal Audio frequency response (REC/PB)**	–	–	S-VHS DC	Adjust mode "1 C" S-VHS	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Load the set with an S-VHS cassette tape and press the MENU(+) or SET(–) button to select the adjustment mode No."1C". (3) Press the COUNTER RESET button. (4) With completion of the automatic adjustment, the tape is automatically ejected and "End" appears in the counter display.
				VHS DC	Adjust mode "1 C" VHS	(5) Change the tape with a VHS cassette tape and proceed to do the same adjustment for the VHS mode as for the S-VHS mode carried out in the above steps.
6*	**BR-S800E HiFi Normal Audio REC/PB level & EE level**	–	–	S-VHS DC	Adjust mode "1 D" S-VHS	(1) After turning on the power (within 2 sec), press the FF, REW and COUNTER RESET buttons simultaneously to enter the set into adjustment mode. (2) Load the set with an S-VHS cassette tape and press the MENU(+) or SET(–) button to select the adjustment mode No."1D". (3) Press the COUNTER RESET button. (4) With completion of the automatic adjustment, the tape is automatically ejected and "End" appears in the counter display.
				VHS DC	Adjust mode "1 D" VHS	(5) Change the tape with a VHS cassette tape and proceed to do the same adjustment for the VHS mode as for the S-VHS mode carried out in the above steps.

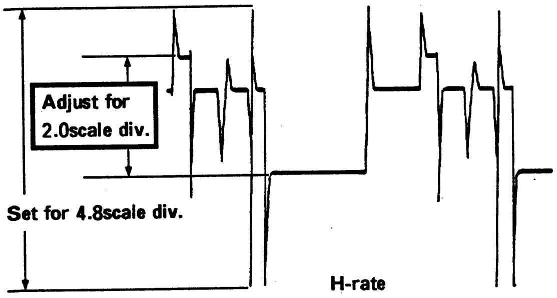
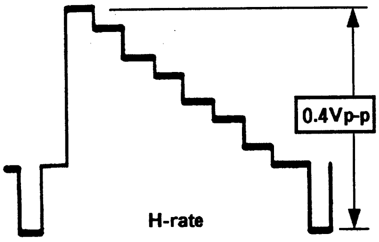
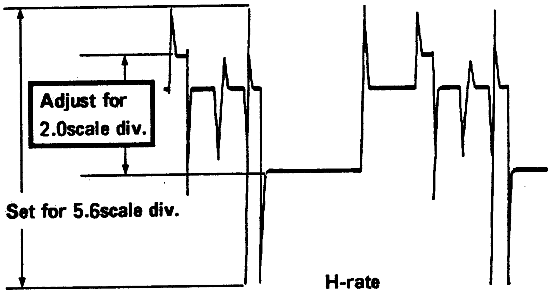
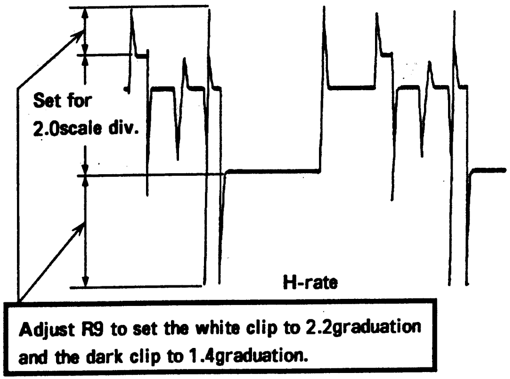
✱: ***Automatic adjustments of the above items No. 4, 5, 6 are provided for the recording system of the audio circuit. Although the above description is given to individual adjustment procedures of the those items, they can undergo automatic adjustment together with/when the adjustment mode No."1E" is selected. (However, adjustments for the VHS and S-VHS modes must be conducted individually.)***

3. 5 VIDEO CIRCUIT

- ***The test point of D-F.F. output is TP102(:7G) on the 1 2 AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

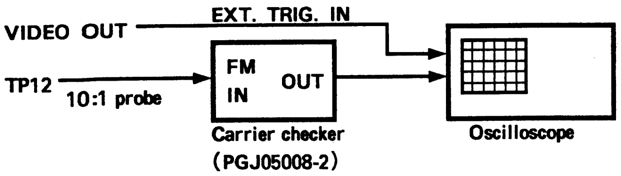
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**VCXO**	TP9 : 14D (VIDEO-1) ↓ Frequency counter	C137 : 14D (VIDEO-1) **TP4 : 4.433619MHz±10Hz**	MHVE-2H	PB	(1) Adjust C137 to obtain 4.433619MHz as the frequency of TP9's signal.
2	**BR-S800E AGC gain level**	VIDEO OUT (75Ω terminator) 	R1 : 8G (VIDEO-1)	Color bar ↓ Y/C443 IN	E-E S-VHS	(1) Set the VIDEO INPUT switch to the Y/C443 position. (2) Adjust R1 so that output level of the VIDEO OUT terminals is 1.0Vp-p. (3) Return the VIDEO INPUT switch to the "LINE" position.
3	**BR-S800E COMB filter level**	VIDEO OUT (75Ω terminator)	R3 : 6G (VIDEO-1) 	Color bar	E-E S-VHS	(1) Adjust R3 so that output level of the VIDEO OUT terminal is 1.0Vp-p.
		VIDEO OUT (75Ω terminator) ↓ Vectorscope **Utilizing the radius of the vectorscope screen's circumference as a ruler, equalize burst level of output of the VIDEO OUT terminal with the input signal level with R2.**	R2 : 6G (VIDEO-1) 	Color bar	E-E S-VHS	(2) Input the signal directly to the vectorscope. While adjusting the GAIN control so that the burst level crosses the scope's circumference. (3) Next, connect the vectorscope to the VIDEO OUT terminal and input color bars signal through the VIDEO IN terminal. (4) Adjust R2 to equalize level of the luminous point of the burst signal with the level of the reference color bar signal.
4	**BR-S800E 321fH**	TP17 : 15D ↓ Degital volt-meter	C150 : 15C (VIDEO-1)	MHVE-2H	STOP ↓ PB	(1) Measure DC voltage at TP17 and take note of DC level as "A". (STOP mode) (2) Play back the alignment tape MHVE-2H. (3) Adjust C150 to equalize DC level with the level of "A".
	BR-S500E 321fH	TP17 : 15D ↓ Degital volt-meter	C150 : 15C (VIDEO-1) **TP17 : 3.20V_{DC}**	MHVE-2H	PB	(1) Adjust C150 so that V_{DC} at TP17 is 3.20V_{DC}.

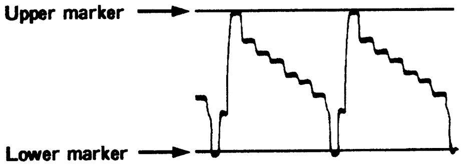
- ***The test point of D-F.F. output is TP102(:7G) on the [1][2] AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
5	**BR-S800E VHS mode White & Dark clip**	TP9 : 10E (VIDEO-2)  Adjust for 2.0scale div. Set for 4.8scale div. H-rate	R4 : 8F (VIDEO-2)	Pulse & bar	E-E VHS	(1) Set the MENU switch No.100 to "VHS". (2) Adjust the oscilloscope's GAIN control to set the level difference between the white clip and the dark clip for 4.8scale divisions of the oscilloscope screen. (3) Adjust R4 so that the difference between the sync tip and the 100% white level is for 2.0scale divisions of the oscilloscope. ***Note :*** ***After the step (3), make sure that the level difference between the white clip and the dark clip is still for 4.8scale divisions.*** (4) Return the setting of the MENU switch No.100 to "AUTO".
6	**BR-S800E Sub emphasis input level**	TP2 : 15G (VIDEO-2)  0.4Vp-p H-rate	R1 : 14F (VIDEO-2)	Color bar	E-E S-VHS	(1) Adjust R1 to obtain 0.4Vp-p as the signal level at TP2.
7	**BR-S800E S-VHS mode White & Dark clip**	TP9 :10E (VIDEO-2)  Adjust for 2.0scale div. Set for 5.6scale div. H-rate	R2 : 15E (VIDEO-2)	Pulse & bar	E-E S-VHS	(1) Adjust the oscilloscope's GAIN control to set the level difference between the white clip and the dark clip for 5.6scale divisions of the oscilloscope screen. (2) Adjust R2 so that the difference between the sync tip and the 100% white level is for 2.0scale divisions of the oscilloscope. ***Note :*** ***After the step (2), make sure that the level difference between the white clip and the dark clip is still for 5.6scale divisions.***
		 Set for 2.0scale div. H-rate Adjust R9 to set the white clip to 2.2graduation and the dark clip to 1.4graduation.	R9 : 10D (VIDEO-2)	Pulse & bar	E-E S-VHS	(3) Adjust the oscilloscope's GAIN control to set the difference between the sync tip and the 100% white level is for 2.0scale divisions. (4) At the same time, adjust R9 to set the white clip to the graduation of 2.2 and the dark clip to the graduation of 1.4 of the oscilloscope scale.

- ***The test point of D-F.F. output is TP102(:7G) on the 1 2 AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
8	**BR-S800E Carrier & Deviation**	TP12 : 6F (VIDEO-2)	R7 : 11E (Sync-tip) R5 : 11E (100%White) (VIDEO-2)	Color bar	E-E S-VHS	***Note :This adjustment needs the carrier checker (PGJ05008-2).*** (1) Make sure that the MENU switch No.100 is set to "AUTO" position. (2) Connect the carrier checker and the oscilloscope as illustrated in the left. (3) Set the carrier checker for "S-VHS" mode and the DEVI/BAL switch to "DEVI" position. (4) Adjust R7 to accord the sync tip with the lower marker while adjusting R5 to accord the 100% white level with the upper marker. ***Note :*** ***The above adjustment requires that both the sync tip and the 100% white level accord with the marker respectively.***

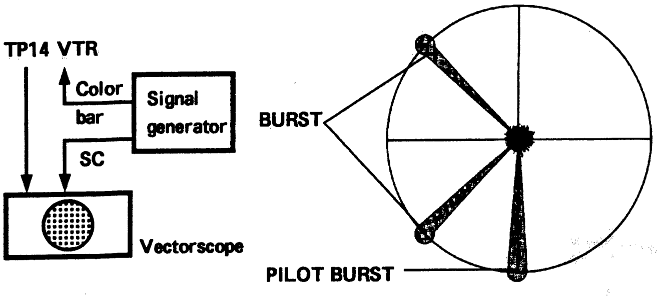




No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
			R8 : 12E (Sync-tip) R6 : 10E (100%White) (VIDEO-2)	Color bar	E-E VHS	(5) Set the MENU switch No.100 to "VHS". (6) Set the carrier checker for "VHS" mode (7) In the same manner as for the S-VHS mode, accord the sync tip with the lower marker with R8 and the 100% white level with the upper marker with R6 respectively. (8) Return the MENU switch No.100 to "AUTO".

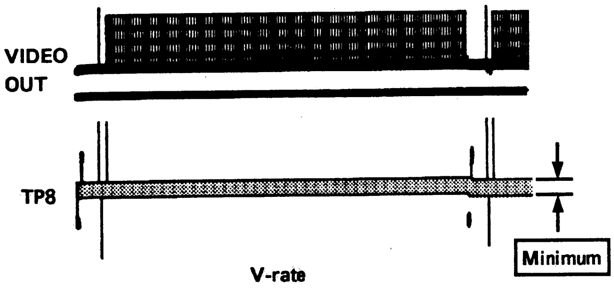
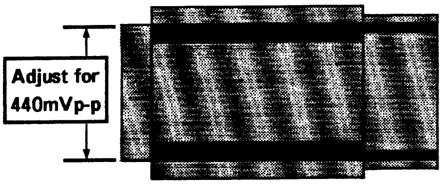
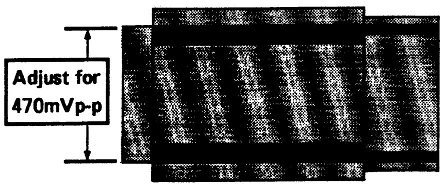
Mode	CARRIER		DEVIATION
	Sync-tip	100%White	
S-VHS	5.4MHz	7.0MHz	1.6MHz
VHS	3.8MHz	4.8MHz	1.0MHz

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
9	**BR-S800E Pilot burst level & phase**	TP14 : 16B (VIDEO-1) ↓ Vectorscope	C116 : 14C (Phase) (VIDEO-1)	Color bar	E-E S-VHS	(1) Shortcircuits between TP12 and TPGND (2) Supply the R/P COLOR board's TP14 output to a vectorscope while supplying S.C. output of a signal generator to its EXT. REF terminal. (3) Adjust the phase of the burst signal by the PHASE VR so that the signal is normally positioned in the vectorscope screen. (4) Adjust the level of the burst signal by the LEVEL VR so that the burst signal level accords with the circumference of the vectorscope screen. (5) Adjust C116 so that the phase of the pilot burst signal meets the U axis at an angle of 270° (in a downward direction).

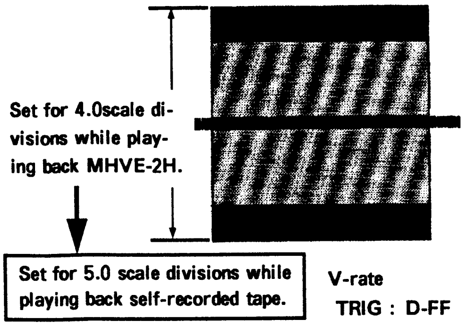
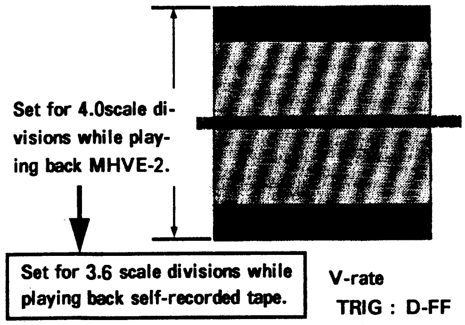
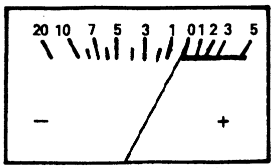


No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
		TP14 : 16B (VIDEO-1)	R4 : 15D (level) (VIDEO-1)	Color bar	E-E S-VHS	(6) Set the burst signal level for 5.0 scale divisions on the osciloscope by adjusting its GAIN control. (7) Adjust R4 so that the pilot burst signal level is for 5.5 scale divisions on the scope.(110%)

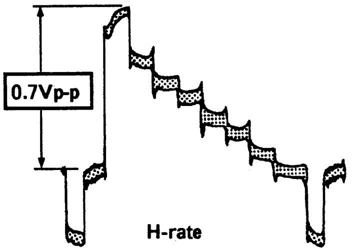
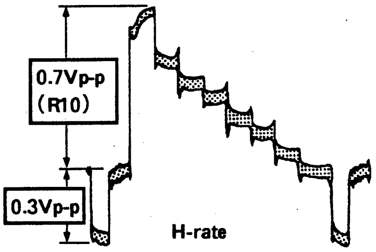
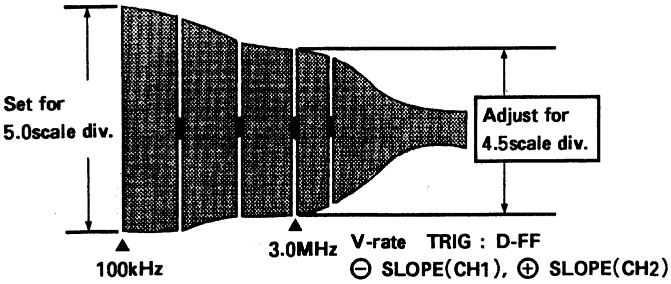
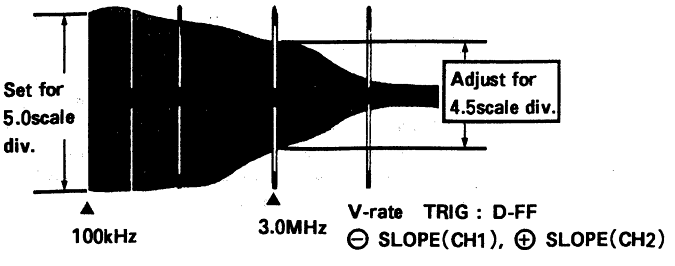
- *The test point of D-F.F. output is TP102(:7G) on the* ***1 2*** *AV PRE/REC board.*
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
10	**YNR NC balance (DOC Y level)**	TP8 : 10F (VIDEO-2) 	R3 :15D (VIDEO-2)	MHVE-2H	PB	***Note :*** ***If this item is extremely maladjusted,it may cause black or white noise in video dropout portions.*** (1) Adjust R8 to minimize the level of TP8's waveform by the portion shown in the figure.
11	**BR-S800E REC FM level**	TP12 : 6F (VIDEO-2)  **TRIG : D-FF** **⊖SLOPE(CH1)** **⊕SLOPE(CH2)**	R14 : 6B (VIDEO-2)	Color bar	REC VHS	(1) Adjust R14 to obtain 440mVp-p as the level of TP12's FM waveform.
		 **TRIG : D-FF** **⊖SLOPE(CH1)** **⊕SLOPE(CH2)**	R12 :7C (VIDEO-2)	Color bar	REC S-VHS	(1) Adjust R12 to obtain 470mVp-p as the level of TP12's FM waveform.

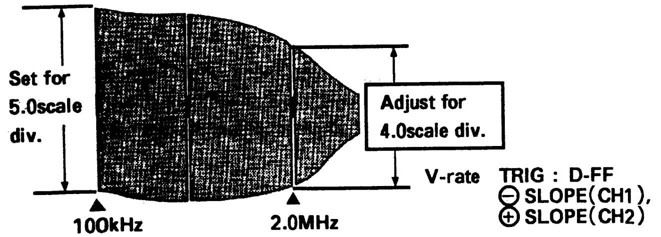
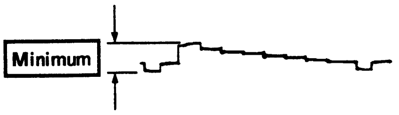
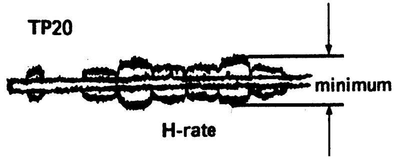
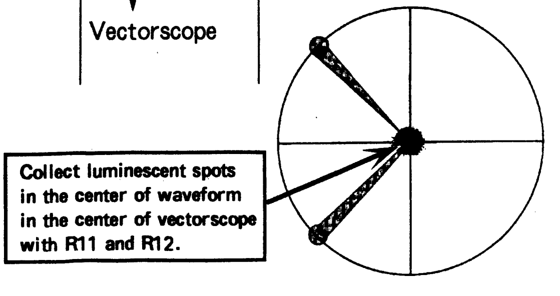
- ***The test point of D-F.F. output is TP102(:7G) on the $\boxed{1}\boxed{2}$ AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
12	**BR-S800E REC color level**	TP18 : 4C (VIDEO-2)	–	MHVE-2H	PB	(1) Play back the MHVE-2H alignment tape. ***Note :*** ***Set the TRACKING VR to the optimum position.*** (2) Adjust the GAIN control of the oscilloscope to set color level at TP5 for 4.0scale divisions of the oscilloscope. ***Note :*** ***When there is a level difference between CH1 and CH2, this adjustment should be based on the channel whose playback level of a self-recorded signal is higher than the other.***
		 Set for 4.0scale divisions while playing back MHVE-2H. Set for 5.0 scale divisions while playing back self-recorded tape. V-rate TRIG : D-FF				
			R13 : 13C (VIDEO-2)	Color bar	REC $\boxed{\text{S-VHS}}$ ↓ PB	(3) Record color bars signal and play it back. ***Set the TRACKING VR to the center position.*** (4) Adjust R13 so that output level at TP18 becomes for 5.0scale divisions on the oscilloscope (+2.0dB to the alignment tape). ***Note :*** ***R13 should be adjusted in recording. Counterclockwise turning of R13 increases the level.***
			–	MHVE-2	PB	(5) Play back the MHVE-2 alignment tape. ***Note :*** ***Set the TRACKING VR to the optimum position.*** (6) Adjust the GAIN control of the oscilloscope to set color level at TP18 for 4.0scale divisions of the oscilloscope. ***Note :*** ***When there is a level difference between CH1 and CH2, this adjustment should be based on the channel whose playback level of a self-recorded signal is higher than the other.***
		 Set for 4.0scale divisions while playing back MHVE-2. Set for 3.6 scale divisions while playing back self-recorded tape. V-rate TRIG : D-FF				
			R15 : 14C (VIDEO-2)	Color bar	REC $\boxed{\text{VHS}}$ ↓ PB	(7) Record color bars signal and play it back. ***Set the TRACKING VR to the center position.*** (8) Adjust R15 so that output level at TP18 becomes for 3.6scale divisions on the oscilloscope (−1.0dB to the alignment tape). ***Note :*** ***R15 should be adjusted in recording. Counterclockwise turning of R15 increases the level.***
13	**Tracking meter**	TRACKING METER	R20 : 4F (VIDEO-2)  20 10 7 5 3 1 0 1 2 3 5 – +	Color bar	REC $\boxed{\text{S-VHS}}$ ↓ PB	(1) Set the METER SELECT switch to "TRACKING", and make sure that the TRACKING VR is set to the center click position. (2) Record a color bars signal and play it back. (3) Adjust R20 so that the pointer of the TRACKING METER indicates 0 as viewed from the right front. ***Note :*** ***For adjusting the BR-S500E in this item, record a color bars signal by the BR-S800E and play it back by the BR-S500E since the latter has equipped with no INPUT terminal. Moreover, make sure to set the TRACKING VR to an optimum position.***

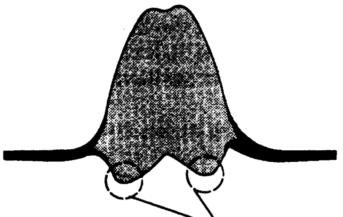
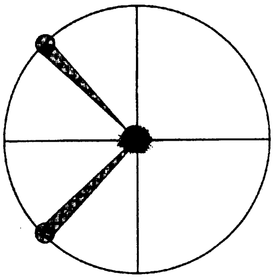
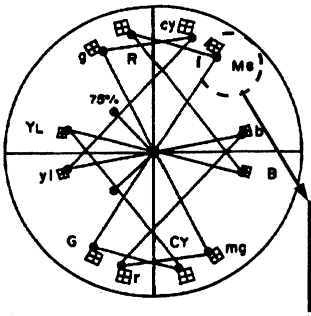
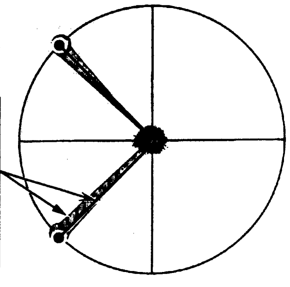
- ***The test point of D-F.F. output is TP102(:7G) on the 1 2 AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
14	**PB Y level**	Y/C 443 OUT or V. OUT (75Ω terminator)  0.7Vp-p H-rate	R11 : 11G (VIDEO-2)	Color bar	REC VHS ↓ PB	(1) Observing output of the Y/C443 Y OUT terminal, adjust R11 so that the difference between the 100% white level and the pedestal level is 0.7Vp-p. ***Note :*** ***For adjusting the BR-S500E in this item, play back the MHVE-2 alignment tape since it has no INPUT terminal.***
		 0.7Vp-p (R10) 0.3Vp-p H-rate	R10 : 10G R21 : 9G (VIDEO-2)	Color bar	REC S-VHS ↓ PB	(2) Observing output of the Y/C443 Y OUT terminal, adjust R10 so that the difference between the 100% white level and the pedestal level is 0.7Vp-p. (3) Adjust R21 so that the sync level becomes 0.3Vp-p. ***Note :*** ***For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it has no INPUT terminal.***
15	**S-VHS mode RF equalizer**	VIDEO OUT (75Ω terminator)  Set for 5.0scale div. Adjust for 4.5scale div. 100kHz 3.0MHz V-rate TRIG : D-FF ⊖ SLOPE(CH1), ⊕ SLOPE(CH2)	R18 : 5G (CH1) R19 : 4G (CH2) (VIDEO-2)	MBVE-3H	PB S-VHS	(1) Make sure that the MENU switch No.101 is set to "DUB or EDIT". (2) Play back the MBVE-3H alignment tape and adjust the TRACKING VR to the optimum position. (3) Observing the 100kHz signal level on the oscilloscope, adjust the oscilloscope's GAIN control to set it for 5.0scale divisions. (4) In the above-mentioned condition, adjust R18 (CH1) and R19 (CH2) so that the 3MHz signal level becomes for 4.5scale divisions (−1.0 dB) respectively.
16	**BR-S800E REC frequency response**	VIDEO OUT (75Ω terminator)  Set for 5.0scale div. Adjust for 4.5scale div. 100kHz 3.0MHz V-rate TRIG : D-FF ⊖ SLOPE(CH1), ⊕ SLOPE(CH2)	C54 : 2G (CH1) C53 : 2G (CH2) (VIDEO-2)	Sweep (nonburst) ↓ Y/C 443 IN	REC S-VHS ↓ PB	(1) Record a sweep signal and play it back. (2) Set the 100kHz signal level for 5.0scale divisions on the oscilloscope screen, and adjust C54 (CH1) and C53 (CH2) so that the 3.0MHz signal level becomes for 4.5scale divisions (−1.0 dB) respectively. ***Note : R13 should be adjusted in recording.***

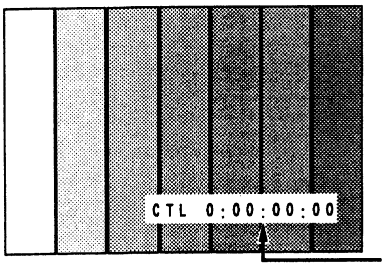
- *The test point of D-F.F. output is TP102(:7G) on the 12 AV PRE/REC board.*
- *For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".*

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
17	**VHS mode RF equalizer**	VIDEO OUT (75Ω terminator)  Set for 5.0scale div. Adjust for 4.0scale div. V-rate TRIG : D-FF ⊖ SLOPE(CH1), ⊕ SLOPE(CH2) 100kHz 2.0MHz	R16 : 4G (CH1) R17 : 3G (CH2) (VIDEO-2)	Sweep (nonburst) ↓ Y/C 443 IN	REC VHS ↓ PB	(1) Make sure that the MENU switch No.101 is set to "DUB or EDIT". (2) Record a sweep signal and play it back. (3) Adjust the GAIN control of the oscilloscope to set the 100kHz signal level for 5.0scale divisions on the oscilloscope screen. (4) In the above condition, adjust R16 (CH1) and R17 (CH2) so that the 2MHz signal level is for 4.0scale divisions (−2.0dB) respectively. *Note :* ***For adjusting the BR-S500E in this item, play back the MH-8 alignment tape since it has no INPUT terminal.***
18	**AFC**	TP501 (BURST ADD) ↓ Frequency counter TP501 : 7.812kHz±100Hz	R503 (BURST ADD)	–	E-E	(1) Adjust R503 to obtain 7.812±0.100kHz as the frequency of TP501's signal.
19	**ΔY**	TP23 : 12G (VIDEO-1)  	R5 : 7B (VIDEO-1)	Color bar	REC S-VHS ↓ PB	(1) Minimize the level of TP23 signal with R5. *Note :* ***When the BR-S500 needs this adjustment, play back the alignment tape MHVE-2H since it is equipped with no INPUT terminal.***
20	**CNR**	TP20 : 11G (VIDEO-1)  	R6 : 10G R7 : 10G (VIDEO-1)	Color bar	REC S-VHS ↓ PB	(1) Make sure that the MENU switch No.101 is set to "OFF(PB)". (2) Adjust R6 and R7 to minimize signal level (leakage of color component) at TP20. (3) After the adjustment return MENU switch No.101 is set to "DUB or EDIT". *Note :* ***When the BR-S500 needs this adjustment, play back the alignment tape MHVE-2H since it is equipped with no INPUT terminal.***
21	**Carrier balance**	VIDEO OUT (75Ω terminator) ↓ Vectorscope  Collect luminescent spots in the center of waveform in the center of vectorscope with R11 and R12.	R11 : 13G R12 : 14G (VIDEO-1)	MHVE-2H	REC S-VHS ↓ PB	(1) Connect the vectorscope to the VIDEO OUT terminal. (2) Adjust R11 and R12 alternately to collect luminescent spots appearing in the center of the waveform in the center of the vectorscope screen. *Note :* ***Without signal input to the vectorscope, make sure that every luminous spot is located in the center of the vectorscope screen.*** ***If there is aluminous point coming off the center without input signal, adjust the VR of the vectorscope to position it in the center of the screen beforehand.***

- ***The test point of D-F.F. output is TP102(:7G) on the*** **1 2** ***AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
22	**PB Y/C delay**	Y/C 443 OUT or V. OUT (75Ω terminator)  	R8 : 12G (VIDEO-1)	Pulse & bar	REC S-VHS ↓ PB	(1) Mix output signals of the Y/C443 Y OUT and the Y/C443 C OUT terminals in the oscilloscope which is triggered by the output signal of the Y OUT terminal. (2) Record pulse & bar signal and play it back while adjusting R201 to symmetrize the modulated 20T pulse in the bottom. ***Note :*** ***For adjusting the BR-S500E in this item, record a pulse & bar signal by the BR-S800E and play it back by the BR-S500E since the latter has no INPUT terminal.***
23	**Color (burst) level & phase**	VIDEO OUT (75Ω terminator) ↓ Vectorscope **Utilizing the radius of the vectorscope screen's circumference as a ruler, adjust R13 to equalize the playback burst level of the self-recorded signal with the burst level of the directly input color bars signal.** 	R13 : 12G (burst) (VIDEO-1)	Color bar	REC S-VHS ↓ PB	(1) Input the color bar signal directly to the vectorscope. While adjusting the GAIN control so that the burst level crosses the scope's circumference. (2) Next, connect the vectorscope to the VIDEO OUT terminal and input color bars signal through the VIDEO IN terminal. (3) Record a color bars signal and play it back. (4) Adjust R13 to equalize level of the luminous point of the burst signal with the level of the reference color bar signal. ***Note :*** ***For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it has equipped with no INPUT terminal.***
		 **Alternately adjust R10 and R9 to position luminescent spot in the ⊞ mark.**	R10 : 13G (level) R9 : 15G (phase) (VIDEO-1)	Color bar	REC S-VHS ↓ PB	(5) Adjust the vectorscope's GAIN control to return the luminescent spot of the burst signal to the original position. (6) Alternately adjust R10 (LEVEL) and R9 (PHASE) to position the luminescent spot of the magenta in the ⊞ mark on the vectorscope screen. ***Note :*** ***For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it has equipped with no INPUT terminal.***
24	**ADD burst**	VIDEO OUT (75Ω terminator) ↓ Vectorscope **Adjust R502 and R501 to equalize level of the luminous point of the burst signal with the level of the ADD burst signal.** 	R502 (level) R501 (phase) (BURST ADD)	Color bar	REC S-VHS ↓ PB	(1) Record the color bar signal and play it back (2) Adjust the GAIN VR and PHASE VR of the vectorscope to position the luminous spots of the burst signal on the circumference of the vectorscope screen. (3) Adjust the phase and the level of the ADD burst signal with R502 and R501 so that they the same as those of the burst signal. (4) If there is a level difference in the ADD burst signal, the adjustment should be performed based on the channel having the higher level.

- ***The test point of D-F.F. output is TP102(:7G) on the $\boxed{1}\boxed{2}$ AV PRE/REC board.***
- ***For the following adjustments of the video circuit, set the menu switch No.101(EDIT SELECT) to "DUB or EDIT".***

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
25	**Slow tracking**	VIDEO OUT (75Ω terminator) ↓ TV monitor	TRACKING VR	Color bar	REC S-VHS ↓ PB ↓ SEARCH (×1/30)	(1) Turn off the power switch. (2) Depress the FF, REW and COUNTER RESET button at the same time while turning on the power switch again. (3) Press the MENU switch to get "03 00" appearing in the counter display. (4) Record a color bars signal, and play it back in the step slow mode at the speed of X1/30 (+0.03). (5) Press the +SHIFT button and adjust the TRACKING VR to eliminate noise from the monitor screen. (6) Press the AUTO MODE button and confirm that "03 End" is appearing in the counter display. (7) Turn off the power switch. ***Note : For adjusting the BR-S500E in this item, play back the MHPE alignment tape since it has no INPUT terminal.***
26	**V lock**	VIDEO OUT (75Ω terminator) ↓ TV monitor	TRACKING VR	Color bar	REC S-VHS ↓ PB ↓ STILL	(1) Set the MENU switch No.337 to "STEP". (2) Record a color bar signal and play it back in the Still mode. (3) Observing the still picture on the monitor screen, adjust the TRACKING VR to minimize fluctuation of the picture. (4) Enter the set into the Stop mode. ***Note : For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it has no INPUT terminal.***
27	**Onscreen**  Adjust so that this colon (:) is positioned in the midpoint between the red and magenta bars.	MONI OUT ↓ TV monitor	C220 (AV I/O)	Color bar	E-E	(1) Set the COUNTER switch to "CTL" position. (2) Connect the TV monitor to the MONITOR OUT terminal. (3) Adjust C220 so that this colon (:) is positioned in the midpoint between the red and magenta bars. ***Note : For adjusting the BR-S500E in this item, play back the MHVE-2H alignment tape since it has no INPUT terminal.***
		TP205 (AV I/O) ↓ Frequency counter	C226 (AV I/O) **TP205 : 17.7314±0.0005MHz**	–	E-E	(1) Take the cassette tape out of the set and then turn off the power switch. (2) Turn on the power switch again, and press the EJECT and STOP buttons simultaneously within 2sec after the counter indicator is on. (3) When "OPEn" appears in the counter display, press the IN/+SHIFT button 11 times, and then "On-Adj" will appear in the counter display. (4) Adjust C226 to obtain 17.7314MHz as the frequency of TP205's signal.

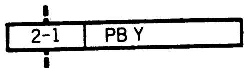
SECTION 4
DIAGRAMS AND CIRCUIT BOARDS

■ FOREWORD

1. Expression of connector

Connector is expressed in two ways.

1) The following illustrates 'CN2 pin 1' for example.



2) The following illustrates 'CN1 pins 1 and 2'.

CN1
1
2
1 2 CN2
SYSCON

2. Expression of wiring

As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

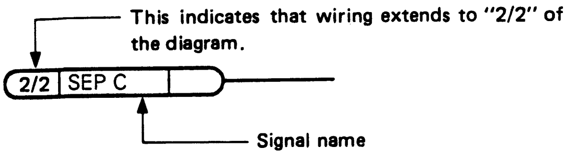
1) Circuit diagram divided into two or more sections:

Board No.	Board Name	Number of divided sections
10	VIDEO-1	2 (1/2~2/2)
11	VIDEO-2	2 (1/2~2/2)
12	AV PRE/REC	2 (1/2~2/2)
20	FM AUDIO	3 (1/3~3/3)
21	NORMAL AUDIO (BR-S800)	4 (1/4~4/4)
23	AV I/O	2 (1/3~3/3)
30	M-CTL/SERVO	3 (1/2~2/2)
—	OVERALL	2 (1/2~2/2)

2) Indication of wiring which extends to another section:

(Example)

On the "1/2" diagram of VIDEO-1 board, such an indication as the following is found on the "SEP C" signal line.



This indicates that wiring extends to "2/2" of the diagram.

Signal name

In the above case, the end of the wiring is connected to the "SEP C" on the 2nd section of the diagram.

3. Wiring of connector

(Example)

CN1
1
2
1 2 CN2
SYSCON

In the above example, CN1 is connected with CN2 on 1 2 SYSCON board.

4. Signal flow on the diagram

The following arrow marks indicate the specified signal paths respectively.

➡ : RECORDING or EE signal path

⇨ : PLAYBACK signal path

▭▶ : REC/PLAY signal path

5. Measurement of voltage and waveform

1) Voltage

Measured by digital voltmeter in REC or PB mode.
In the "symbol No." column of the DC voltage tables, there are some parts indicated with such symbols as "1A", "2B", etc. Each of those symbols indicates a section of the board which the part is located in. Moreover, some symbols are followed by symbol numbers of other parts, which are located near the objective parts and printed to show the rough locations of the objective parts since their symbol numbers are not specified on the board.

2) Waveform

Video: Unless otherwise indicated, (a) color bars signal input through LINE IN terminal in REC in S-VHS mode, (b) color bars signal of MHVE-2H alignment tape in PB.

6. Unit of value

Unless otherwise specified:

1) Resistance is in Ω (1/6 W)
2) Capacitance in μF
3) Inductance in μH
4) Screened parts (in ▨) are important for safety assurance. When replacing them, use specified parts.

7. Others

The wiring diagrams appearing in this section are generally common to the BR-S800E and the BR-S500E, however, there are exceptions that some parts are not used in the BR-S500E or are different in the ratings between the BR-S800E and the BR-S500E. Therefore, make sure to refer to the Electrical Parts List (section 6) to check the rating of parts and to check to see whether the parts are used or not.

4.1 INDEX TO PAGES OF MAIN BOARDS

Board No.	Board Name	Page of diagram			
		Block diagram	Schematic diagram	Circuit board	Parts list
01	MOTHER-1	—	4-16	4-18	6-2
02	MOTHER-2	—	4-17	4-19	6-2
03	SLOT MOTHER	—	4-20	4-21	6-2
10	VIDEO-1	4-5, 6, 8, 9	4-22, 23	4-24, 25	6-2 ~ 10
11	VIDEO-2	4-5, 7, 8, 9	4-30, 31	4-32, 35	6-10 ~ 17
12	AV PRE/REC	4-5, 8, 9	4-36, 37	4-36	6-17 ~ 19
15	BURST ADD	4-9	4-29	4-28	6-19
20	FM AUDIO	4-10, 12	4-46 ~ 48	4-51	6-20 ~ 23
21	NORMAL AUDIO (BR-S800)	4-11	4-38 ~ 41	4-42	6-23 ~ 28
22	NORMAL AUDIO (BR-S500)	4-13	4-44	4-45	6-28 ~ 29
23	AV I/O	4-8, 10, 12	4-52 ~ 54	4-57	6-30 ~ 34
30	SERVO/M-CTL	4-4	4-58, 59	4-60, 63	6-34 ~ 40
31	SYSCON	4-14, 15	4-64	4-65	6-40 ~ 41
32	OPE-CPU	4-10, 12, 15	4-66	4-68	6-42
33	OPE-VR	4-15	4-67	4-68	6-42 ~ 43
34	OPE-SW	4-15	4-66	4-68	6-43 ~ 44
35	OPE-DIAL	4-15	4-66	4-68	6-44
40	REAR	4-8	4-69	4-70	6-44 ~ 45
50	END SENSOR	—	4-21	4-21	6-45
51	REC SAFE SW	—	—	4-21	6-45
52	S-SWITCH	—	—	4-21	6-45
53	MODE MOTOR	—	—	4-21	6-45
54	C. HOUSING	—	—	4-21	6-45
55	MECHA TERMINAL	—	—	4-21	6-46
56	A/C HEAD	—	—	4-21	6-46
60	PRIMARY	—	4-71	4-72	6-46
61	SW REGULATOR	—	4-71	4-72	6-46 ~ 47
62	REGULATOR	—	4-71	4-72	6-47 ~ 48
64	LINE FILTER	—	4-71	4-72	6-48
94	DRUM	—	—	4-36	6-48
95	CONNECTOR	—	—	—	6-48

4.2 REPLACING SUBMINIATURE "CHIP" PARTS

1. General description

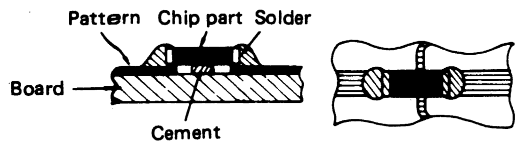
Some of resistors, variable resistors, shorting jumpers (0 Ω resistors), ceramic capacitors, transistors, diodes are chip parts. Those removed once cannot be used again.

2. Replacement of chip parts

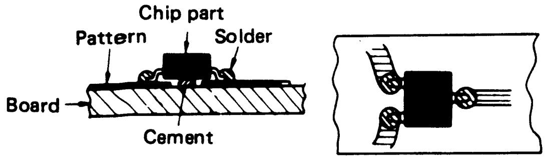
Replacement of chip parts should be performed as follows. Use a soldering iron (17 W for 260–30°C approx.) that has sharp-pointed tip and high performance in insulation.
It is more convenient to use a soldering iron with solder absorber (55 W approx.).

(1) Soldered condition of chip parts

- Resistors, capacitors, etc.


Pattern
Chip part
Solder
Board
Cement

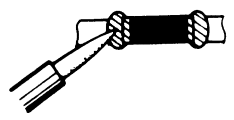
- Transistors, diodes, etc.


Chip part
Pattern
Solder
Board
Cement

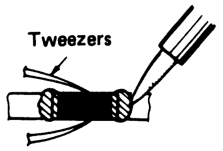
(2) Removing of chip parts

- Resistors, capacitors, etc.

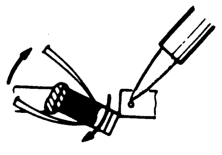
i) Melt solder at a side.



ii) Holding the chip with tweezers, melt solder at the other side.

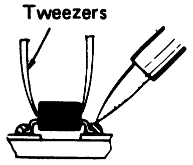


iii) Take off the chip in twisting and sliding motion.

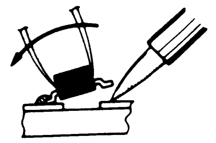


- Transistors, diodes, etc.

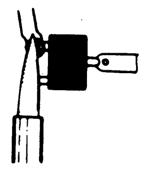
i) Melt solder at the side of single lead.



ii) Lift the unsolderd side upwards.



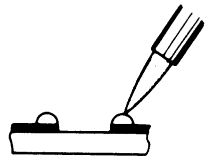
iii) Simultaneously melt solder at two leads of the other side and pull up the chip.



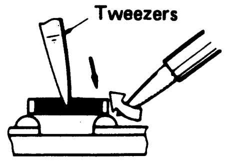
(3) Preheating and soldering of chip parts
Except transistors, make sure to preheat all chip parts, capacitors in particular, with a hot wind of 150°C approx. (of a hair dryer, etc.) for 2 minutes just before soldering, and immediately solder by a soldering iron of approx. 30 W.

(4) Attaching of chip parts

i) Heap up a proper amount of solder beforehand.



ii) Holding down a new chip by tweezers, solder it to the board by a soldering iron to melt solder from its lower part to the upper part (in the direction shown by a big arrow).



Note:
- Don't heat chip parts over 3 seconds.
- Don't rub electrodes.
- Don't use chip parts which were once removed.
- No cement is required.

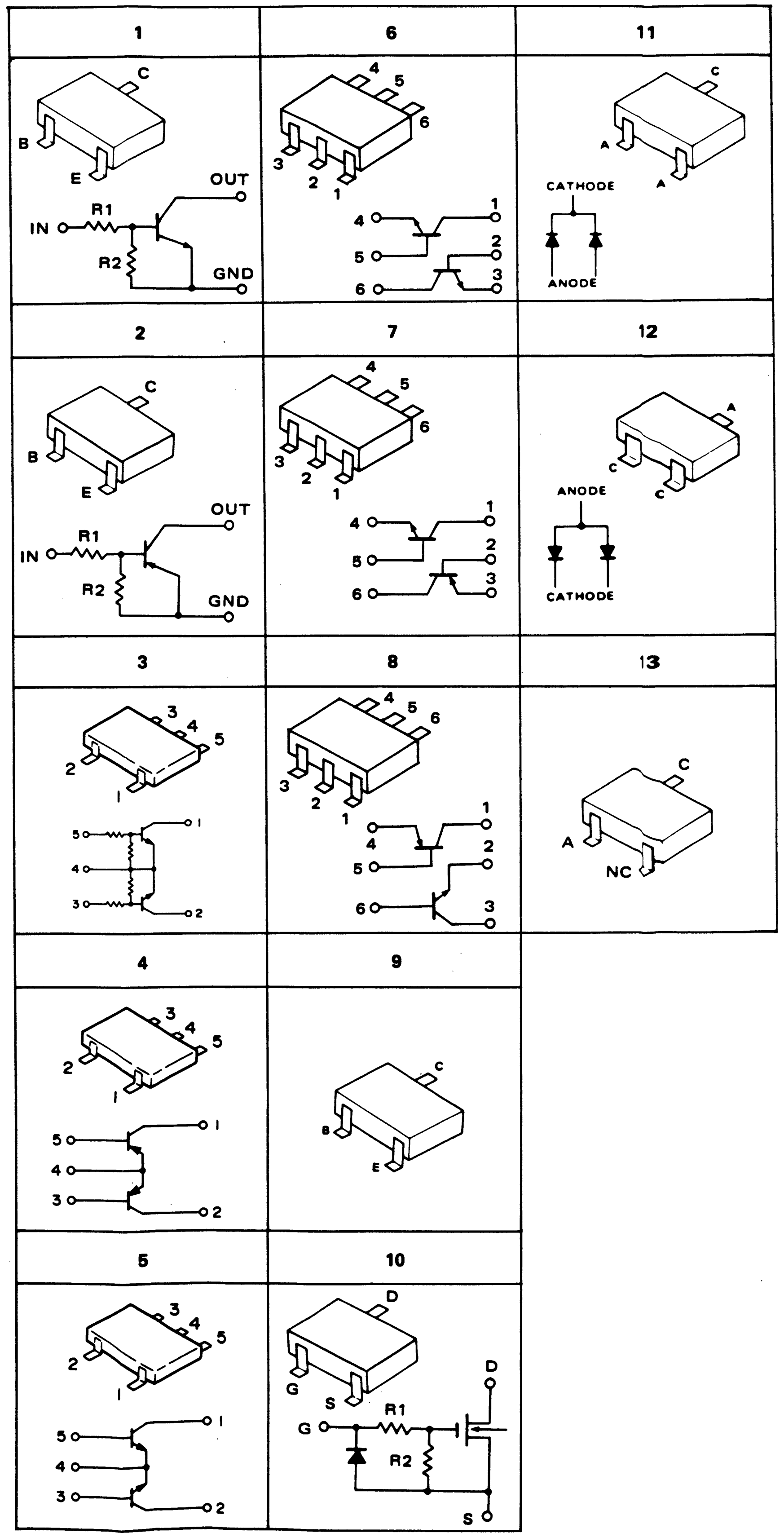
3. Shapes of transistors & diodes

- **Transistors**

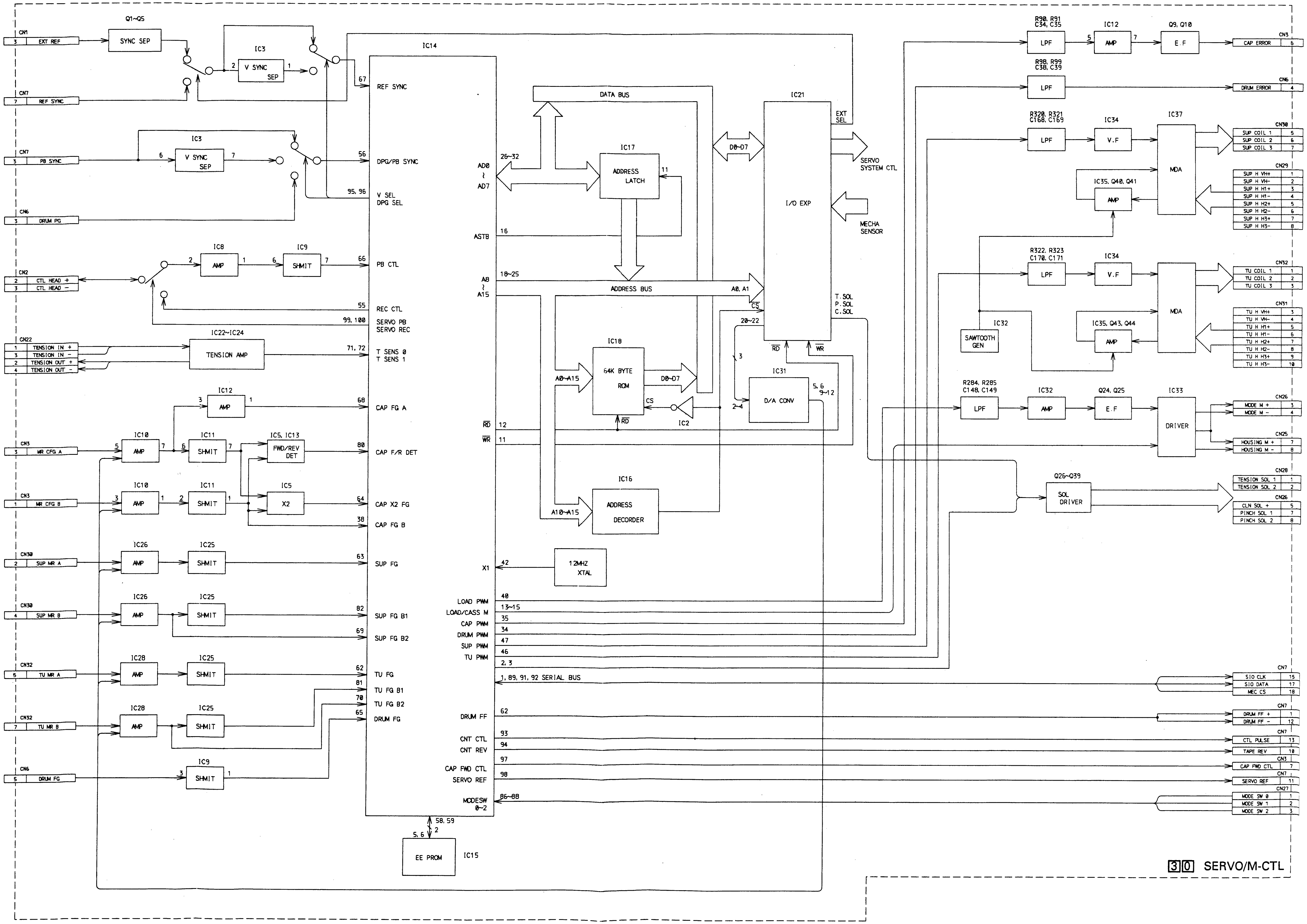
DTA124EK	2
DTA144EK	2
DTC114EK	1
DTC114YK	1
DTC144EK	1
DTC144EU	1
FMG2	3
FMS1	4
FMW1	5
IMX1	6
IMZ1	7
IMZ2	8
2SA1022C	9
2SB709	9
2SC2412K	9
2SC2778	9
2SC4081	9
2SD601/A	9
2SD602/A	9
2SK621	10

- **Diodes**

DAN202K	11
DAP202K	12
MA28WA	13
MA3056	13
MA3075	13

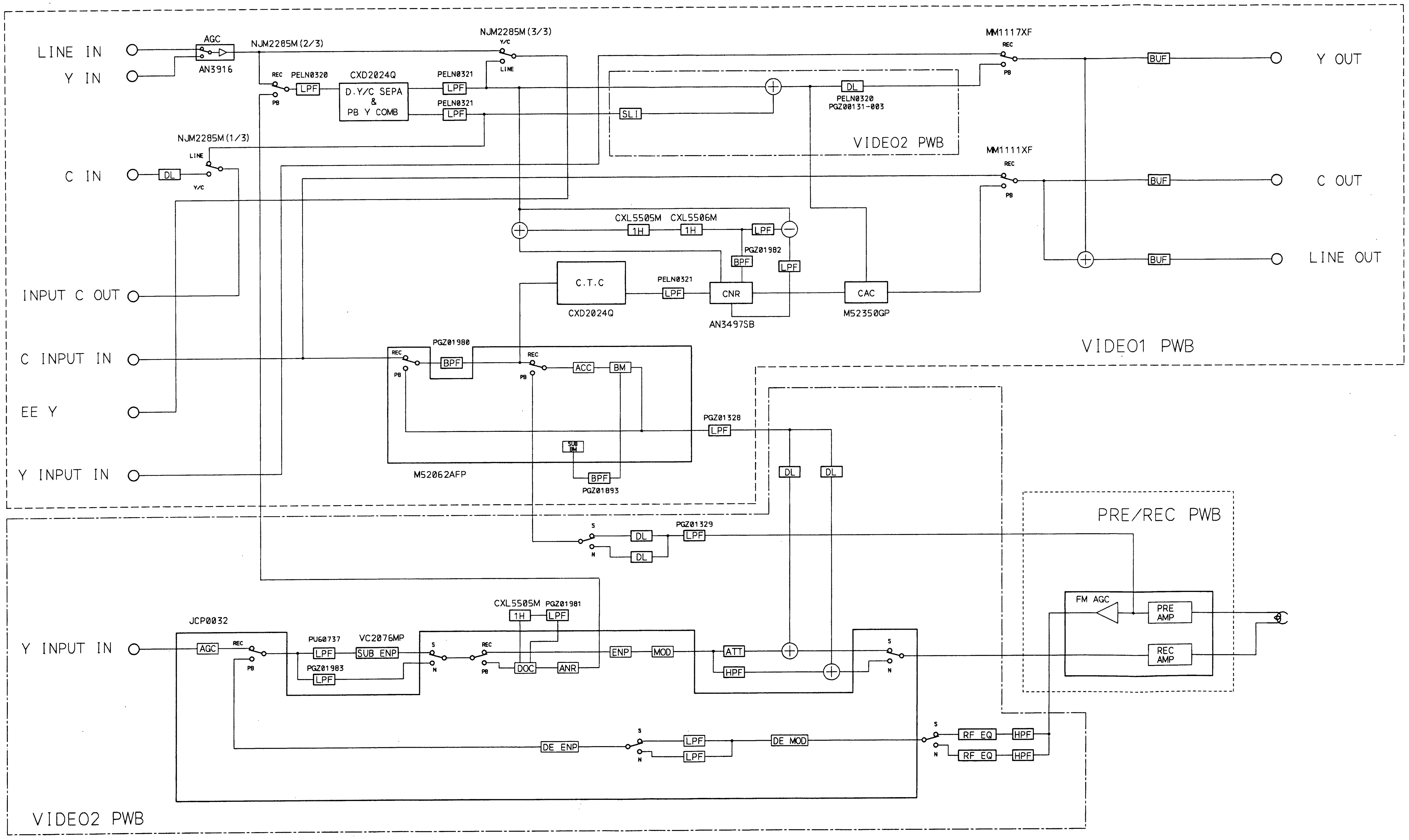

1
C
B
E
OUT
R1
IN
R2
GND
6
4
5
6
3
2
1
4
5
6
1
2
3
11
C
A
CATHODE
A
ANODE
2
C
B
E
OUT
R1
IN
R2
GND
7
4
5
6
3
2
1
4
5
6
1
2
3
12
A
C
ANODE
C
CATHODE
3
3
4
5
2
1
5
4
3
1
2
8
4
5
6
3
2
1
1
4
2
5
6
3
13
C
A
NC
4
3
4
5
2
1
5
4
3
1
2
9
C
B
E
5
3
4
5
2
1
5
4
3
1
2
10
D
G
S
D
R1
G
R2
S

4.3 SERVO/MECHA-CONTROLL BLOCK DIAGRAM

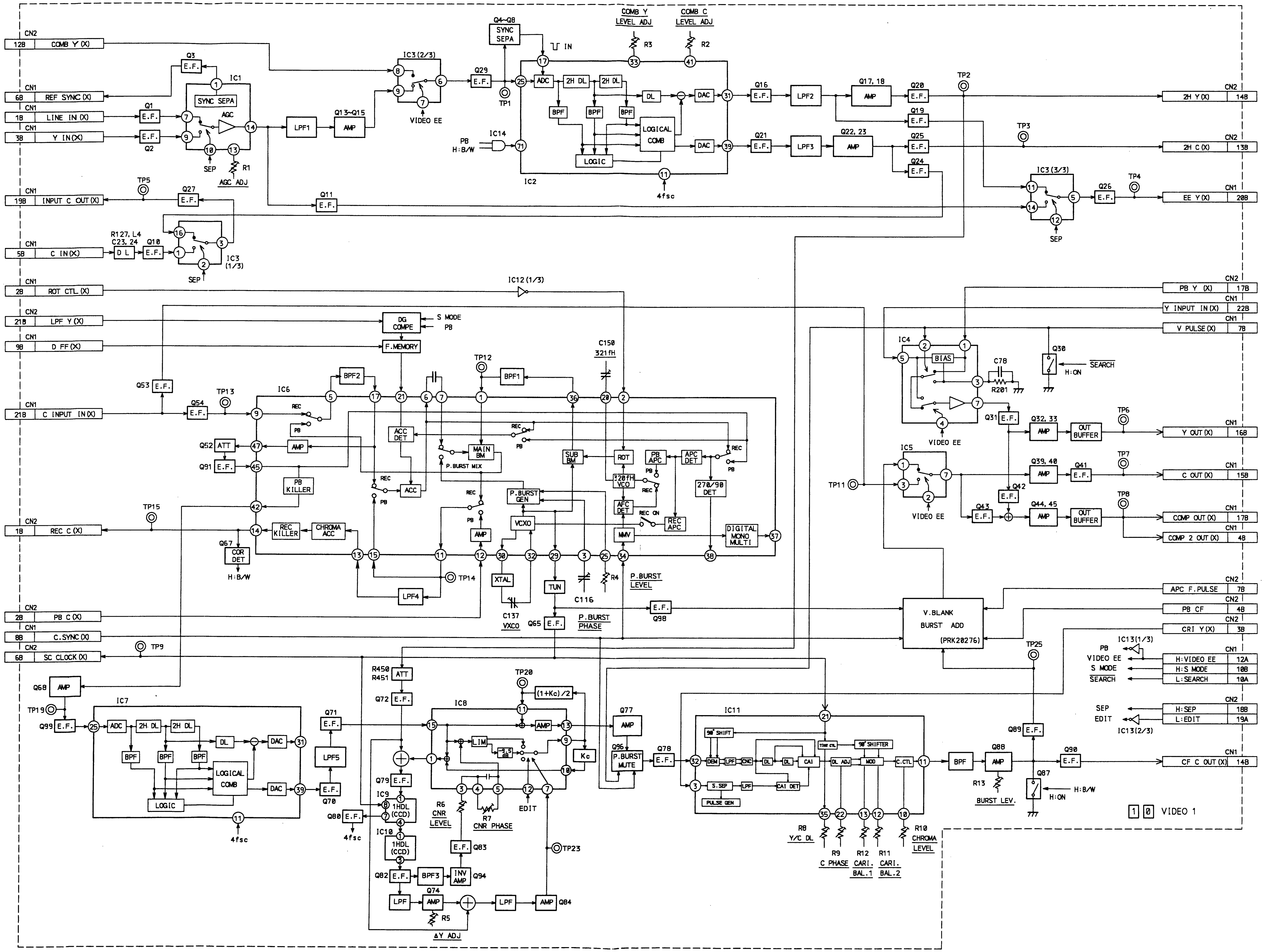


CN1 3 EXT REF
Q1~Q5 SYNC SEP
IC3 V SYNC SEP
CN7 7 REF SYNC
CN7 3 PB SYNC
IC3 V SYNC SEP
CN6 3 DRUM PG
CN2 2 CTL HEAD + 3 CTL HEAD −
IC8 AMP
IC9 SHMIT
CN22 1 TENSION IN + 3 TENSION IN − 2 TENSION OUT + 4 TENSION OUT −
IC22~IC24 TENSION AMP
IC12 AMP
CN3 3 MR CFG A
IC10 AMP
IC11 SHMIT
IC5, IC13 FWD/REV DET
CN3 1 MR CFG B
IC5 X2
CN30 2 SUP MR A
IC26 AMP
IC25 SHMIT
CN30 4 SUP MR B
CN32 5 TU MR A
IC28 AMP
CN32 7 TU MR B
CN6 5 DRUM FG
IC14
67 REF SYNC
56 DPG/PB SYNC
95, 96 V SEL DPG SEL
66 PB CTL
55 REC CTL
99, 100 SERVO PB SERVO REC
71, 72 T SENS 0 T SENS 1
68 CAP FG A
80 CAP F/R DET
64 CAP X2 FG
38 CAP FG B
63 SUP FG
82 SUP FG B1
69 SUP FG B2
62 TU FG
81 TU FG B1
70 TU FG B2
65 DRUM FG
AD0 ~ AD7 26~32
ASTB 16
A8 ~ A15 18~25
RD 12
WR 11
X1 42
12MHZ XTAL
LOAD PWM 40
LOAD/CASS M 13~15
CAP PWM 35
DRUM PWM 34
SUP PWM 47
TU PWM 46
2, 3
1, 89, 91, 92 SERIAL BUS
DRUM FF 62
CNT CTL 93
CNT REV 94
CAP FWD CTL 97
SERVO REF 98
MODESW 0~2 86~88
58, 59
2
5, 6
EE PROM IC15
DATA BUS
IC17 ADDRESS LATCH
ADDRESS BUS
IC18 64K BYTE ROM
A0~A15
D0~D7
CS
RD
IC2
IC16 ADDRESS DECORDER
A10~A15
IC21 I/O EXP
D0~D7
A0, A1
CS
20~22
RD WR
EXT SEL
SERVO SYSTEM CTL
MECHA SENSOR
T. SOL P. SOL C. SOL
IC31 D/A CONV
2~4
3
5, 6 9~12
R90, R91 C34, C35 LPF
IC12 AMP
Q9, Q10 E.F
CN3 CAP ERROR 6
R98, R99 C38, C39 LPF
CN6 DRUM ERROR 4
R320, R321 C168, C169 LPF
IC34 V.F
IC37 MDA
CN30 SUP COIL 1 5 SUP COIL 2 6 SUP COIL 3 7
IC35, Q40, Q41 AMP
CN29 SUP H VH+ 1 SUP H VH− 2 SUP H H1+ 3 SUP H H1− 4 SUP H H2+ 5 SUP H H2− 6 SUP H H3+ 7 SUP H H3− 8
R322, R323 C170, C171 LPF
IC34 V.F
MDA
CN32 TU COIL 1 1 TU COIL 2 2 TU COIL 3 3
IC32 SAWTOOTH GEN
IC35, Q43, Q44 AMP
CN31 TU H VH+ 3 TU H VH− 4 TU H H1+ 5 TU H H1− 6 TU H H2+ 7 TU H H2− 8 TU H H3+ 9 TU H H3− 10
R284, R285 C148, C149 LPF
IC32 AMP
Q24, Q25 E.F
IC33 DRIVER
CN26 MODE M + 3 MODE M − 4
CN25 HOUSING M + 7 HOUSING M − 8
Q26~Q39 SOL DRIVER
CN28 TENSION SOL 1 1 TENSION SOL 2 2
CN26 CLN SOL + 5 PINCH SOL 1 7 PINCH SOL 2 8
CN7 SIO CLK 15 SIO DATA 17 MEC CS 18
CN7 DRUM FF + 1 DRUM FF − 12
CN7 CTL PULSE 13
TAPE REV 10
CN3 CAP FWD CTL 7
CN7 SERVO REF 11
CN27 MODE SW 0 1 MODE SW 1 2 MODE SW 2 3
30 SERVO/M-CTL

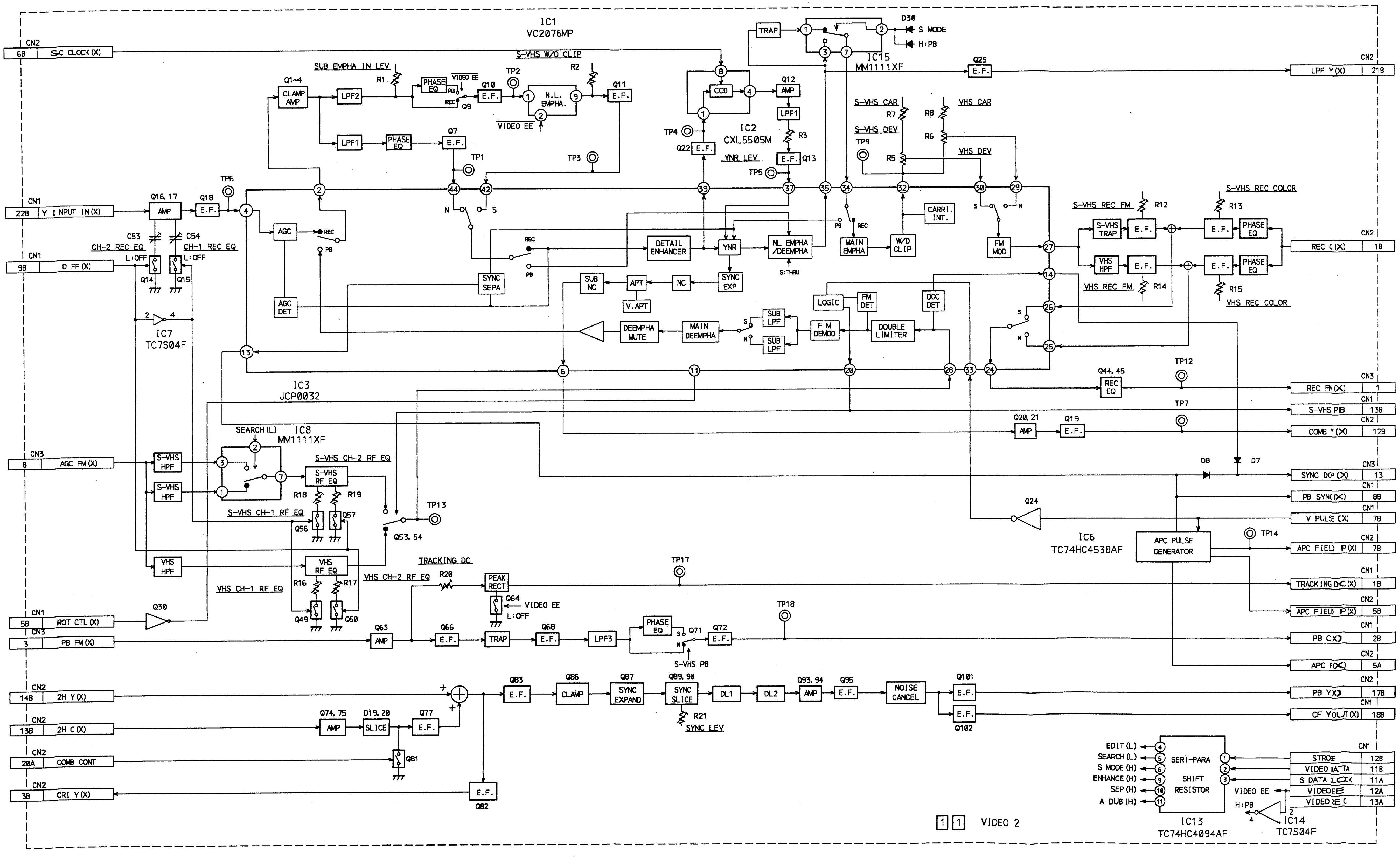
4.4 VIDEO SIGNAL BLOCK DIAGRAM


LINE IN
Y IN
AGC
AN3916
NJM2285M (2/3)
REC
PB
PELN0320
LPF
CXD2024Q
D.Y/C SEPA & PB Y COMB
PELN0321
LPF
PELN0321
LPF
NJM2285M (3/3)
Y/C
LINE
SLI
DL
PELN0320
PGZ00131-003
VIDEO2 PWB
MM1117XF
REC
PB
BUF
Y OUT
NJM2285M (1/3)
LINE
Y/C
C IN
DL
MM1111XF
REC
PB
BUF
C OUT
BUF
LINE OUT
CXL5505M
CXL5506M
1H
1H
LPF
PGZ01982
BPF
LPF
C.T.C
CXD2024Q
PELN0321
LPF
CNR
AN3497SB
CAC
M52350GP
INPUT C OUT
VIDEO1 PWB
C INPUT IN
PGZ01980
BPF
REC
PB
ACC
BM
SUB BM
EE Y
PGZ01328
LPF
BPF
PGZ01893
M52062AFP
Y INPUT IN
DL
DL
S
N
DL
DL
PGZ01329
LPF
PRE/REC PWB
FM AGC
PRE AMP
REC AMP
CXL5505M
PGZ01981
1H
LPF
JCP0032
Y INPUT IN
AGC
REC
PB
PU60737
LPF
VC2076MP
SUB ENP
PGZ01983
LPF
S
N
REC
PB
DOC
ANR
ENP
MOD
ATT
HPF
S
N
DE ENP
S
N
LPF
LPF
DE MOD
S
N
RF EQ
RF EQ
HPF
HPF
VIDEO2 PWB

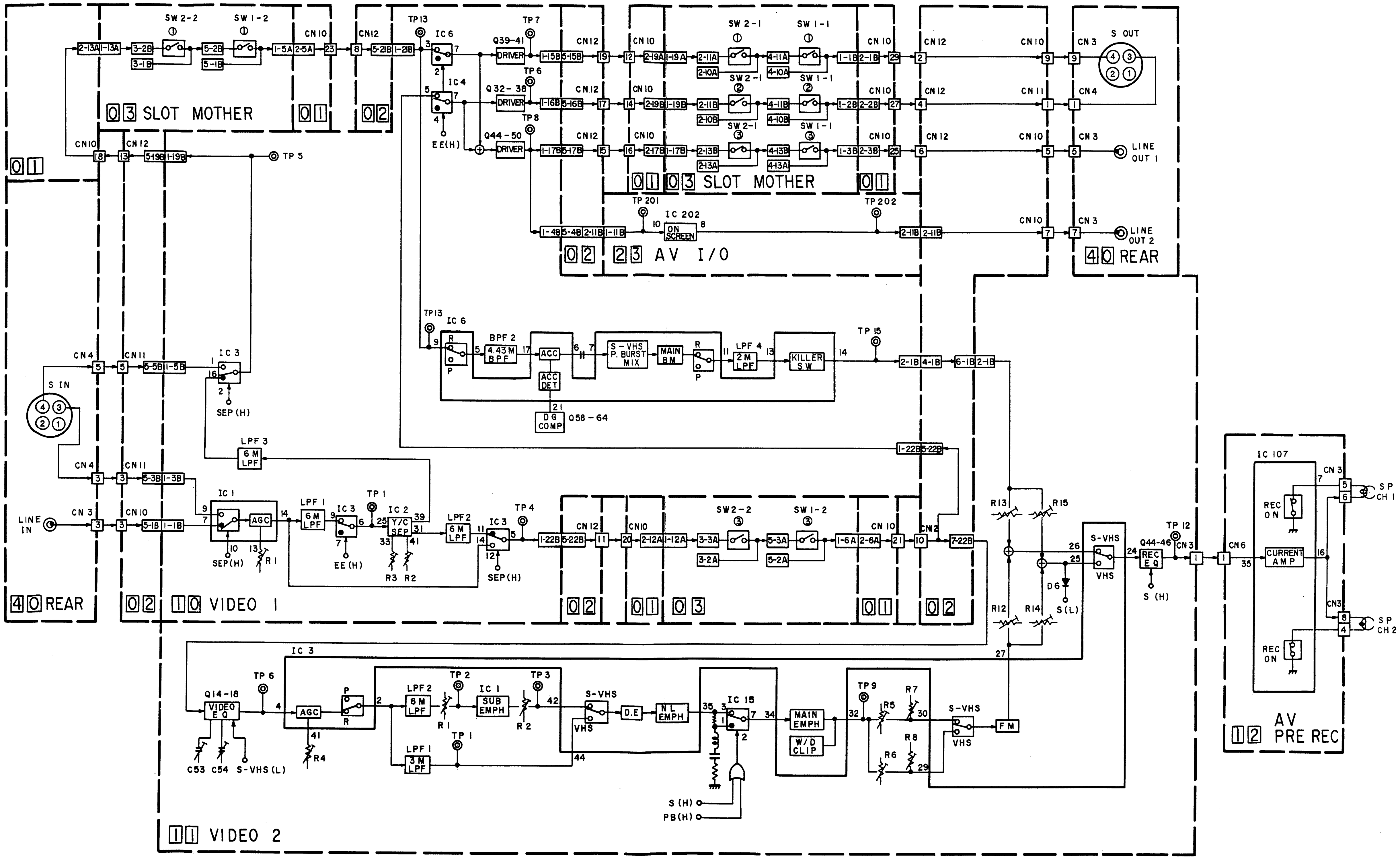
4.5 VIDEO-1 BLOCK DIAGRAM


CN2 12B COMB Y (X)
CN1 6B REF SYNC (X)
CN1 1B LINE IN (X)
CN1 3B Y IN(X)
CN1 19B INPUT C OUT(X)
CN1 5B C IN(X)
CN1 2B ROT CTL (X)
CN2 21B LPF Y (X)
CN1 9B D FF (X)
CN1 21B C INPUT IN(X)
CN2 1B REC C (X)
CN2 2B PB C (X)
CN1 8B C.SYNC (X)
CN2 6B SC CLOCK (X)
IC1
SYNC SEPA
AGC
SEP
R1
AGC ADJ
Q1
Q2
Q3
E.F.
LPF1
Q13~Q15
AMP
IC3(2/3)
VIDEO EE
Q29
TP1
Q4~Q8
SYNC SEPA
IN
COMB Y LEVEL ADJ
COMB C LEVEL ADJ
R3
R2
ADC
2H DL
BPF
DL
DAC
LOGICAL COMB
LOGIC
IC2
4fsc
PB H:B/W
IC14
Q16
LPF2
Q17, 18
Q20
Q19
Q21
LPF3
Q22, 23
Q25
Q24
TP2
TP3
CN2 2H Y (X) 14B
CN2 2H C (X) 13B
IC3(3/3)
Q26
TP4
CN1 EE Y (X) 20B
SEP
TP5
Q27
Q11
R127, L4
C23, 24
Q10
DL
IC3 (1/3)
IC12(1/3)
CN2 PB Y (X) 17B
CN1 Y INPUT IN(X) 22B
CN1 V PULSE (X) 7B
IC4
BIAS
C78
R201
Q30
H:ON
SEARCH
VIDEO EE
Q31
Q32, 33
AMP
OUT BUFFER
TP6
CN1 Y OUT (X) 16B
IC5
Q39, 40
Q41
TP7
CN1 C OUT (X) 15B
TP11
Q42
Q43
Q44, 45
TP8
CN1 COMP OUT (X) 17B
CN1 COMP 2 OUT (X) 4B
DG COMPE
S MODE
PB
F.MEMORY
TP12
BPF1
C150 321fH
Q53
TP13
IC6
Q54
BPF2
REC
PB
Q52 ATT
Q91
ACC DET
MAIN BM
P.BURST MIX
PB KILLER
ACC
SUB BM
ROT
PB APC
APC DET
320fH VCO
AFC DET
REC ON
REC APC
270/90 DET
P.BURST GEN
VCXO
AMP
MMV
DIGITAL MONO MULTI
TP15
REC KILLER
CHROMA ACC
Q67
COR DET
H:B/W
LPF4
TP14
XTAL
TUN
C116
R4
P.BURST LEVEL
C137 VXCO
Q65
P.BURST PHASE
Q98
V.BLANK BURST ADD (PRK20276)
CN2 APC F.PULSE 7B
CN2 PB CF 4B
CN2 CRI Y (X) 3B
TP9
TP25
IC13(1/3)
PB
VIDEO EE
S MODE
SEARCH
CN1 H:VIDEO EE 12A
H:S MODE 10B
L:SEARCH 10A
CN2 H:SEP 18B
L:EDIT 19A
SEP
EDIT
IC13(2/3)
Q68
TP19
Q99
IC7
LPF5
Q71
Q70
Q80
4fsc
R450 R451
ATT
Q72
TP20
(1+Kc)/2
IC8
LIM
-3.5 dB
Kc
Q79
IC9 1HDL (CCD)
IC10 1HDL (CCD)
R6 CNR LEVEL
R7 CNR PHASE
EDIT
Q83
TP23
Q82
BPF3
INV AMP
Q94
Q74
LPF
R5
ΔY ADJ
Q84
Q77
Q96
P.BURST MUTE
Q78
IC11
90° SHIFT
90° SHIFTER
DEM
CNC
DL ADJ
MOD
C.CTL
CAI
CAI DET
S.SEP
PULSE GEN
R8 Y/C DL
R9 C PHASE
R12 CARI. BAL.1
R11 CARI. BAL.2
R10 CHROMA LEVEL
Q89
BPF
Q88
R13 BURST LEV.
Q87
H:B/W
H:ON
Q90
CN1 CF C OUT (X) 14B
1 0 VIDEO 1

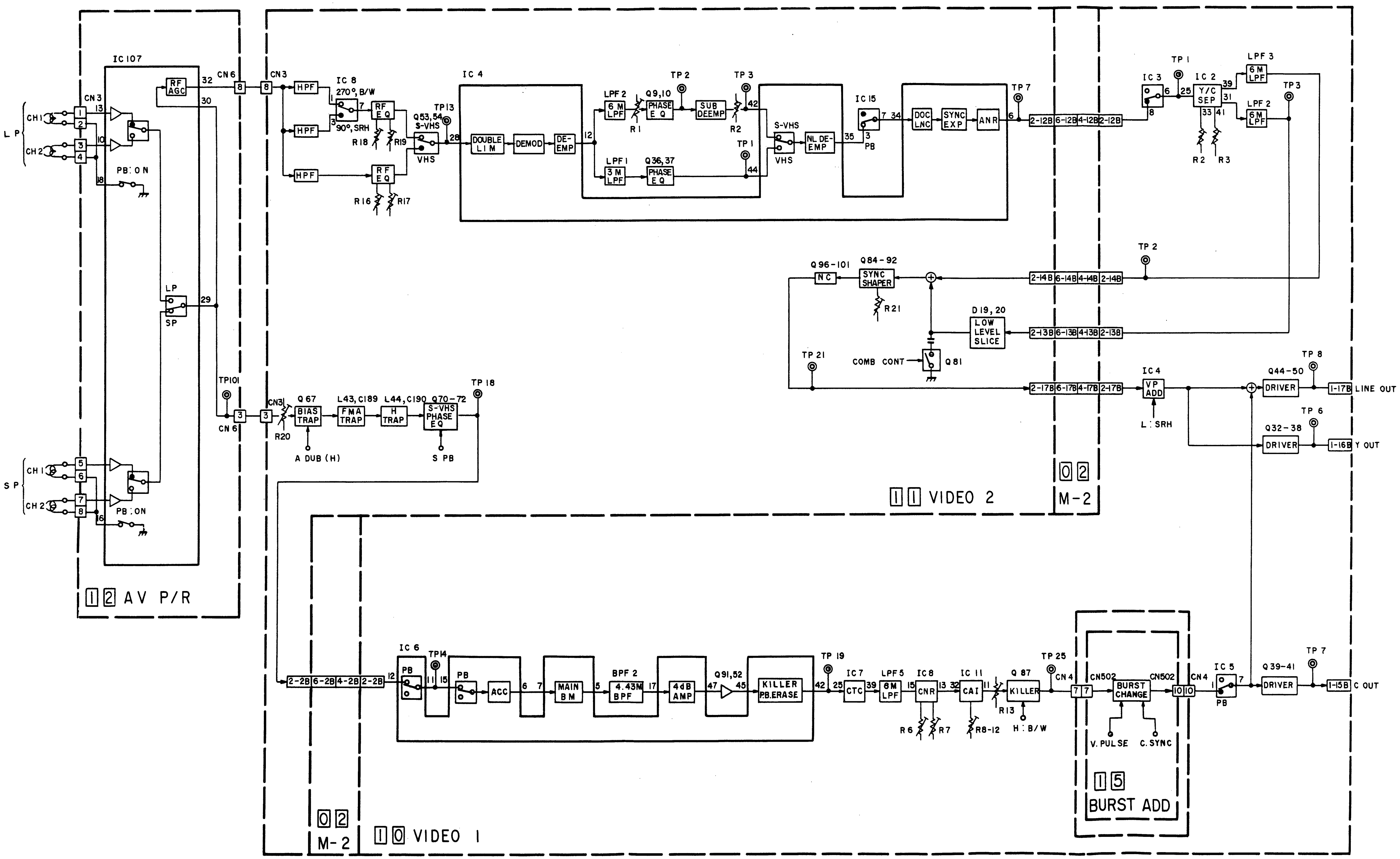
4.6 VIDEO-2 BLOCK DIAGRAM


IC1
VC2076MP
CN2
6B
SC CLOCK (X)
S-VHS W/D CLIP
SUB EMPHA IN LEV
R1
R2
Q1~4
CLAMP AMP
LPF2
PHASE EQ
VIDEO EE
PB
REC
Q9
Q10
E.F.
TP2
N.L. EMPHA.
Q11
VIDEO EE
LPF1
PHASE EQ
Q7
E.F.
TP1
TP3
CN1
22B
Y INPUT IN (X)
Q16, 17
AMP
Q18
E.F.
TP6
AGC
REC
PB
AGC DET
C53
C54
CH-2 REC EQ
CH-1 REC EQ
L:OFF
9B
D FF (X)
Q14
Q15
IC7
TC7S04F
N
S
SYNC SEPA
REC
PB
DETAIL ENHANCER
YNR
NL EMPHA /DEEMPHA
S:THRU
SYNC EXP
SUB NC
APT
NC
V.APT
DEEMPHA MUTE
MAIN DEEMPHA
SUB LPF
F M DEMOD
LOGIC
FM DET
DOUBLE LIMITER
DOC DET
MAIN EMPHA
W/D CLIP
CARRI. INT.
FM MOD
IC3
JCP0032
TRAP
D30
S MODE
H:PB
IC15
MM1111XF
Q25
E.F.
LPF Y (X)
21B
CCD
Q12
AMP
LPF1
R3
IC2
CXL5505M
TP4
Q22
E.F.
YNR LEV
E.F.
Q13
TP5
S-VHS CAR
R7
R8
VHS CAR
S-VHS DEV
R6
TP9
R5
VHS DEV
S-VHS REC FM
R12
S-VHS TRAP
E.F.
S-VHS REC COLOR
R13
E.F.
PHASE EQ
REC C (X)
1B
VHS HPF
E.F.
VHS REC FM
R14
PHASE EQ
R15
VHS REC COLOR
Q44, 45
REC EQ
TP12
CN3
REC FM (X)
1
S-VHS PB
13B
TP7
Q20, 21
AMP
Q19
E.F.
COMB Y (X)
12B
D8
D7
SYNC DXP (X)
13
PB SYNC (X)
8B
Q24
V PULSE (X)
7B
IC6
TC74HC4538AF
APC PULSE GENERATOR
TP14
APC FIELD P (X)
7B
TRACKING DC (X)
1B
APC FIELD P (X)
5B
PB C (X)
2B
APC P (X)
5A
SEARCH (L)
IC8
MM1111XF
CN3
8
AGC FM (X)
S-VHS HPF
S-VHS HPF
S-VHS CH-2 RF EQ
S-VHS RF EQ
R18
R19
S-VHS CH-1 RF EQ
Q56
Q57
Q53, 54
TP13
VHS HPF
VHS RF EQ
R16
R17
VHS CH-1 RF EQ
VHS CH-2 RF EQ
Q49
Q50
TRACKING DC
R20
PEAK RECT
Q64
VIDEO EE
L:OFF
TP17
5B
ROT CTL (X)
Q30
3
PB FM (X)
Q63
AMP
Q66
E.F.
TRAP
Q68
E.F.
LPF3
PHASE EQ
Q71
Q72
E.F.
S-VHS PB
TP18
14B
2H Y (X)
Q83
E.F.
Q86
CLAMP
Q87
SYNC EXPAND
Q89, 90
SYNC SLICE
R21
SYNC LEV
DL1
DL2
Q93, 94
AMP
Q95
E.F.
NOISE CANCEL
Q101
E.F.
PB Y (X)
17B
E.F.
Q102
CF Y OUT (X)
18B
13B
2H C (X)
Q74, 75
AMP
D19, 20
SLICE
Q77
E.F.
20A
COMB CONT
Q81
3B
CRI Y (X)
E.F.
Q82
EDIT (L)
SEARCH (L)
S MODE (H)
ENHANCE (H)
SEP (H)
A DUB (H)
SERI-PARA SHIFT RESISTOR
IC13
TC74HC4094AF
VIDEO EE
H:PB
IC14
TC7S04F
STROBE
VIDEO DATA
S DATA CLOCK
VIDEO EE
VIDEO REC
12B
11B
11A
12A
13A
1 1 VIDEO 2

4.7 VIDEO RECORDING SIGNAL BLOCK DIAGRAM

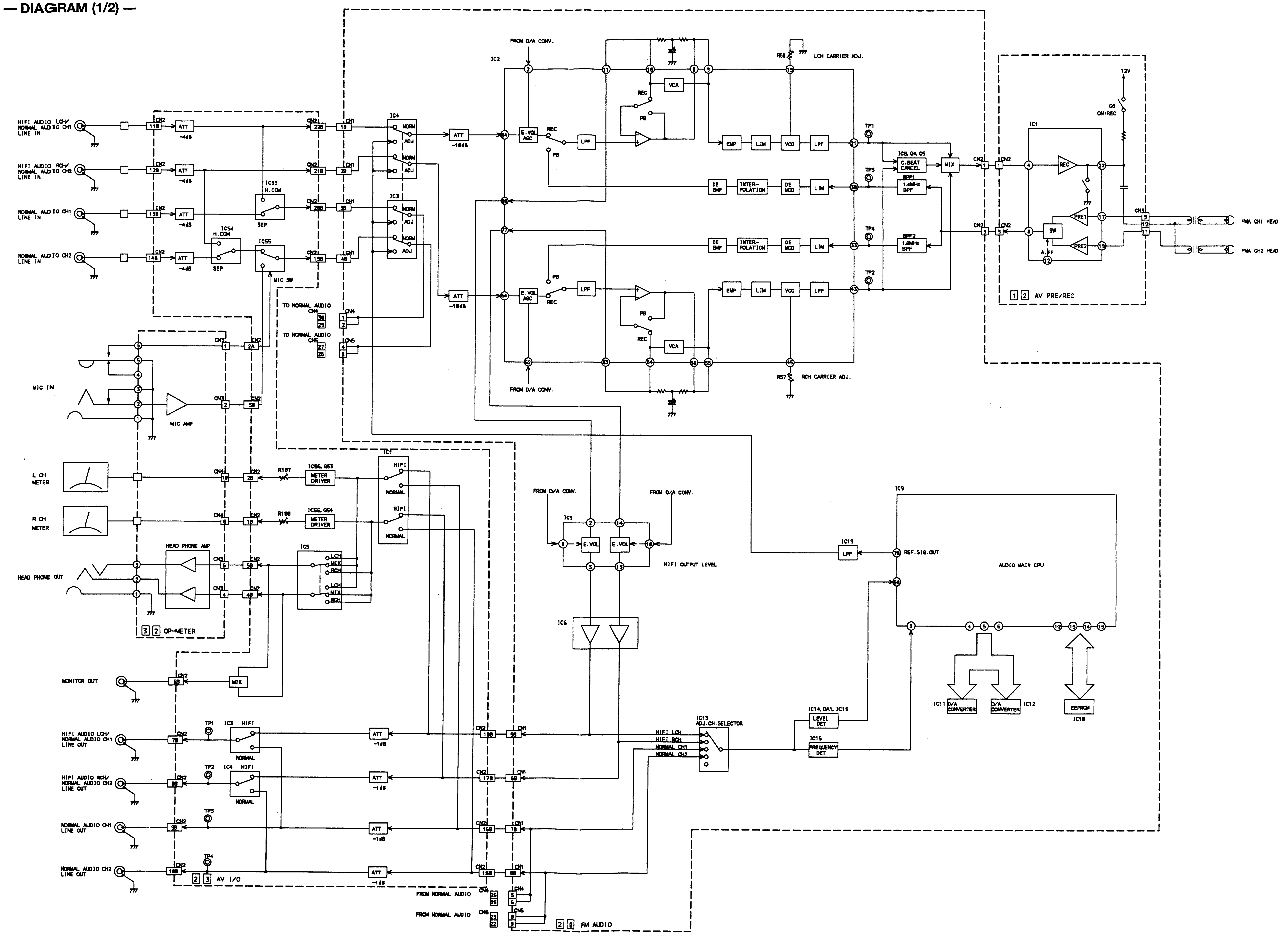

03 SLOT MOTHER
01
02
40 REAR
02 10 VIDEO 1
11 VIDEO 2
01 03 SLOT MOTHER
02 23 AV I/O
12 AV PRE REC
SW 2-2
SW 1-2
SW 2-1
SW 1-1
CN 10
CN 12
CN 11
CN 4
CN 3
CN 6
TP 13
TP 7
TP 6
TP 8
TP 5
TP 201
TP 202
TP 15
TP 1
TP 2
TP 3
TP 4
TP 9
TP 12
IC 6
IC 4
EE(H)
Q39-41
Q32-38
Q44-50
DRIVER
IC 202
ON SCREEN
S OUT
LINE OUT 1
LINE OUT 2
S IN
LINE IN
IC 3
SEP(H)
LPF 3
6M LPF
IC 1
AGC
LPF 1
IC 2
Y/C SEP
LPF 2
R1
R2
R3
BPF 2
4.43M BPF
ACC
ACC DET
DG COMP
Q58-64
S-VHS P. BURST MIX
MAIN BM
LPF 4
2M LPF
KILLER SW
R12
R13
R14
R15
D6
S(L)
S-VHS
VHS
Q44-46
REC EQ
S(H)
IC 107
REC ON
CURRENT AMP
SP CH 1
SP CH 2
Q14-18
VIDEO EQ
C53
C54
S-VHS(L)
R4
SUB EMPH
3M LPF
D.E
NL EMPH
IC 15
PB(H)
MAIN EMPH
W/D CLIP
R5
R6
R7
R8
FM
A
B
C
D
E
F
G
H
1
2
3
4
5
6

4.8 VIDEO PLAYBACK SIGNAL BLOCK DIAGRAM

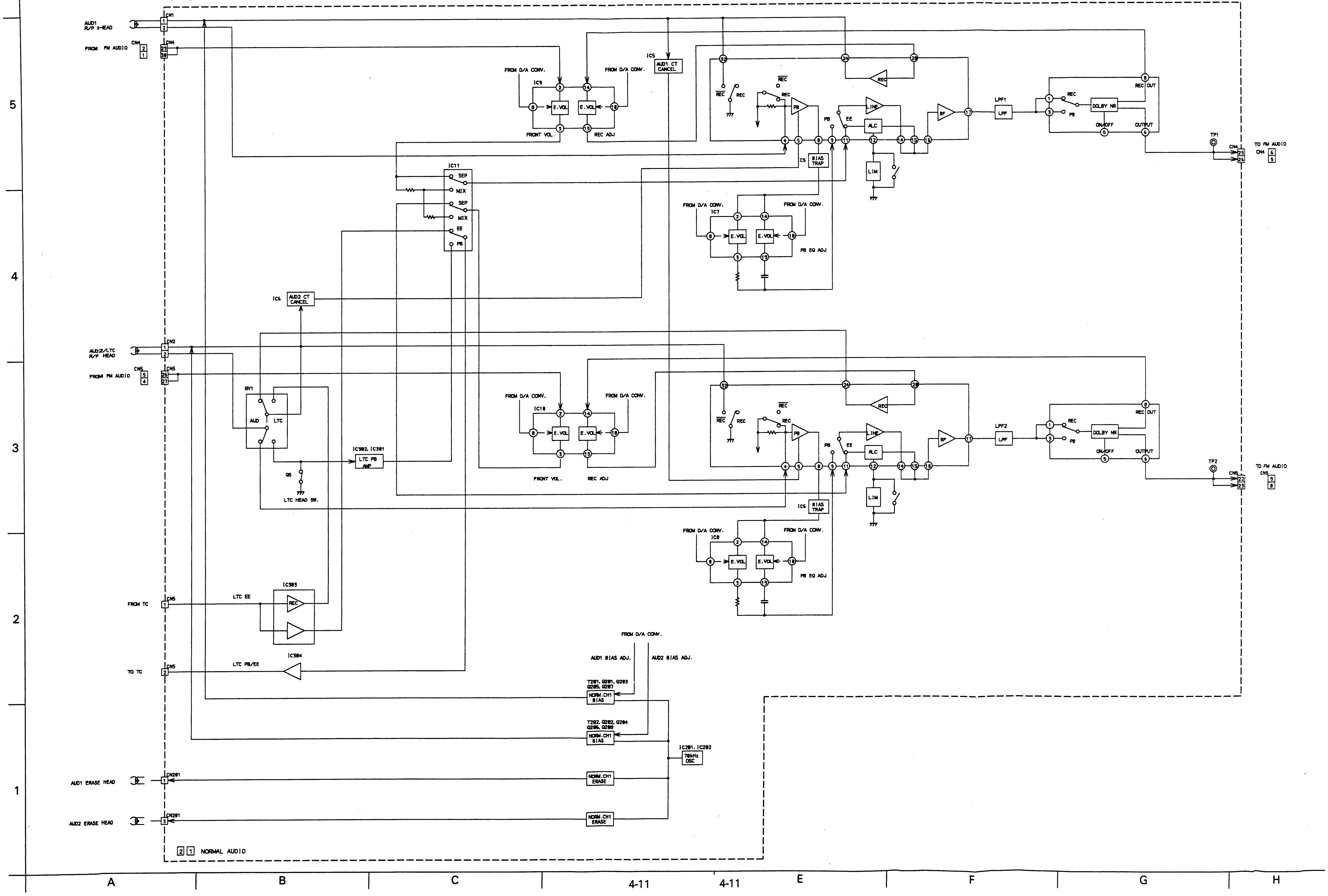

IC107
CN3
LP
CH1
CH2
SP
RF AGC
PB: ON
CN6
TP101
12 AV P/R
CN3
HPF
IC 8
270°, B/W
90°, SRH
RF EQ
R18
R19
R16
R17
Q53,54 S-VHS
VHS
TP13
IC 4
DOUBLE LIM
DEMOD
DE-EMP
LPF 2 6M LPF
R1
Q9,10 PHASE EQ
SUB DEEMP
LPF 1 3M LPF
Q36,37 PHASE EQ
TP 2
TP 3
TP 1
R2
S-VHS
NL DE-EMP
IC15
PB
DOC LNC
SYNC EXP
ANR
TP 7
2-12B 6-12B 4-12B 2-12B
IC 3
TP 1
IC 2 Y/C SEP
R2
R3
LPF 3 6M LPF
LPF 2 6M LPF
TP 3
TP 2
Q96-101 NC
Q84-92 SYNC SHAPER
R21
2-14B 6-14B 4-14B 2-14B
D19,20 LOW LEVEL SLICE
2-13B 6-13B 4-13B 2-13B
COMB CONT
Q81
TP 21
2-17B 6-17B 4-17B 2-17B
IC 4 VP ADD
L: SRH
TP 8
Q44-50 DRIVER
1-17B LINE OUT
TP 6
Q32-38 DRIVER
1-16B Y OUT
Q67 BIAS TRAP
L43, C189 FMA TRAP
L44, C190 H TRAP
Q70-72 S-VHS PHASE EQ
TP 18
R20
A DUB (H)
S PB
02 M-2
11 VIDEO 2
2-2B 6-2B 4-2B 2-2B
IC 6
PB
TP14
ACC
MAIN BM
BPF 2 4.43M BPF
4dB AMP
Q91,52
KILLER PB.ERASE
TP 19
IC7 CTC
LPF5 6M LPF
IC8 CNR
R6
R7
IC 11 CAI
R8-12
Q 87 KILLER
R13
H: B/W
TP 25
CN4
CN502
BURST CHANGE
V. PULSE
C. SYNC
15 BURST ADD
IC 5
Q39-41 DRIVER
TP 7
1-15B C OUT
02 M-2
10 VIDEO 1

4.9 AUDIO BLOCK DIAGRAM (BR-S800E)

— DIAGRAM (1/2) —

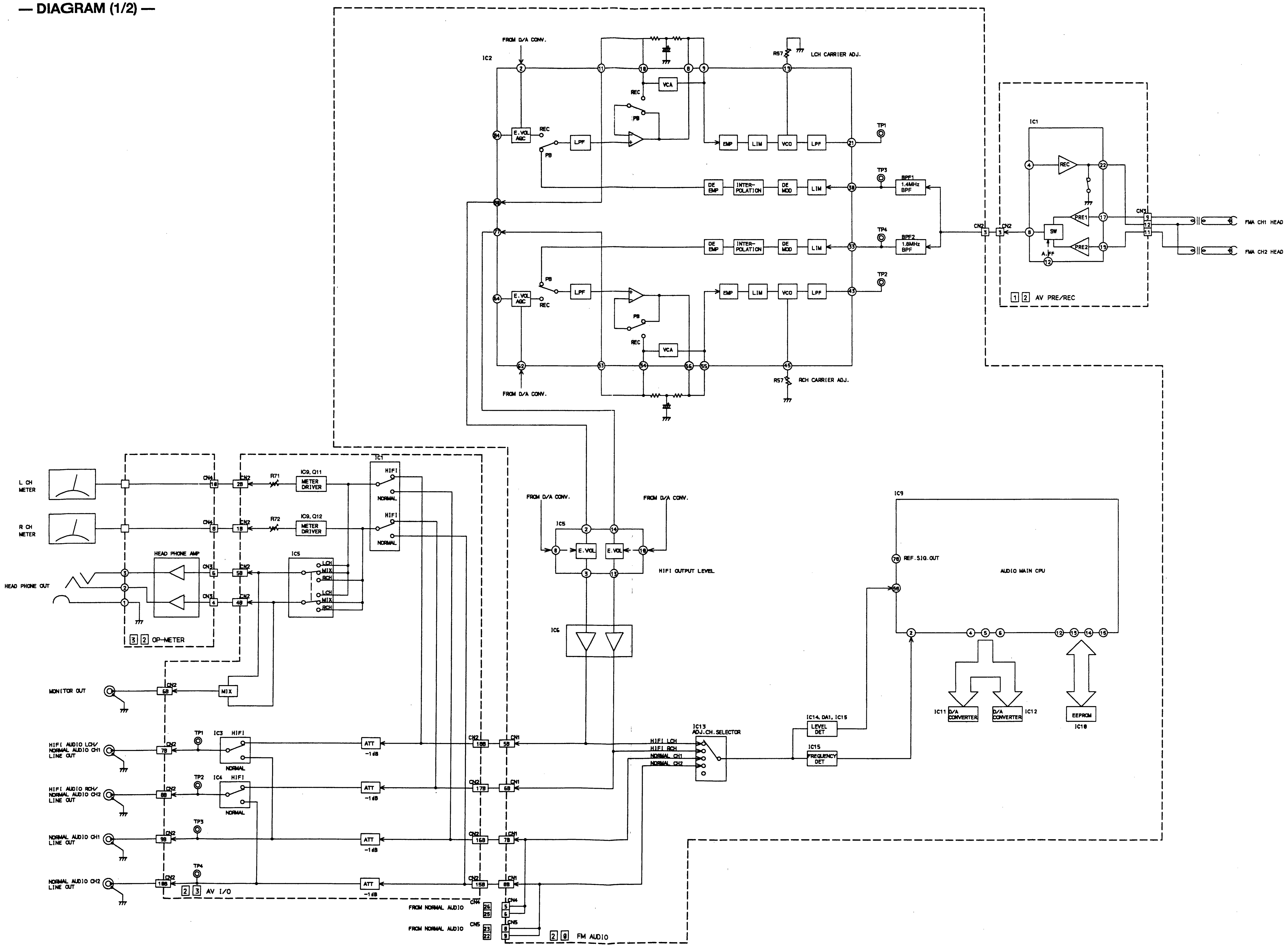

HIFI AUDIO LCH/ NORMAL AUDIO CH1 LINE IN
HIFI AUDIO RCH/ NORMAL AUDIO CH2 LINE IN
NORMAL AUDIO CH1 LINE IN
NORMAL AUDIO CH2 LINE IN
CN2 11B
CN2 12B
CN2 13B
CN2 14B
ATT -4dB
IC53 H.COM SEP
IC54 H.COM SEP
IC55
MIC SW
CN2 22B
CN2 21B
CN2 20B
CN2 19B
CN1 1B
CN1 2B
CN1 3B
CN1 4B
IC4 NORM ADJ
IC3 NORM ADJ
ATT -18dB
TO NORMAL AUDIO CN4 30 29
TO NORMAL AUDIO CN5 27 26
CN4 1 2
CN5 4 5
MIC IN
MIC AMP
CN3 1
CN3 2
CN2 2A
CN2 3B
L CH METER
R CH METER
CN4 10
CN4 8
CN2 2B
CN2 1B
R107
R108
IC56, Q53 METER DRIVER
IC56, Q54 METER DRIVER
IC1 HIFI NORMAL
HEAD PHONE OUT
HEAD PHONE AMP
CN3 6
CN3 4
CN2 5B
CN2 4B
IC5 LCH MIX RCH
3 2 OP-METER
MONITOR OUT
CN2 6B
MIX
HIFI AUDIO LCH/ NORMAL AUDIO CH1 LINE OUT
HIFI AUDIO RCH/ NORMAL AUDIO CH2 LINE OUT
NORMAL AUDIO CH1 LINE OUT
NORMAL AUDIO CH2 LINE OUT
CN2 7B
CN2 8B
CN2 9B
CN2 10B
TP1 TP2 TP3 TP4
IC3 HIFI NORMAL
IC4 HIFI NORMAL
ATT -1dB
2 3 AV I/O
CN2 18B
CN2 17B
CN2 16B
CN2 15B
CN1 5B
CN1 6B
CN1 7B
CN1 8B
FROM NORMAL AUDIO CN4 26 25
FROM NORMAL AUDIO CN5 23 22
CN4 5 6
CN5 8 9
2 8 FM AUDIO
IC2
FROM D/A CONV.
E.VOL AGC
REC PB
LPF
VCA
EMP LIM VCO LPF
DE EMP
INTER-POLATION
DE MOD
LIM
R58 LCH CARRIER ADJ.
R57 RCH CARRIER ADJ.
TP1 TP3 TP4 TP2
IC8, Q4, Q5 C.BEAT CANCEL
BPF1 1.4MHz BPF
BPF2 1.8MHz BPF
MIX
CN2 1
CN2 3
IC1
REC
PRE1
PRE2
SW
A.FF
12V
Q3 ON:REC
CN3 9 12 11
FMA CH1 HEAD
FMA CH2 HEAD
1 2 AV PRE/REC
IC5
E.VOL
HIFI OUTPUT LEVEL
IC6
IC13 ADJ.CH.SELECTOR
HIFI LCH
HIFI RCH
NORMAL CH1
NORMAL CH2
IC19 LPF
IC9
REF.SIG.OUT
AUDIO MAIN CPU
IC14, DA1, IC15 LEVEL DET
IC15 FREQUENCY DET
IC11 D/A CONVERTER
D/A CONVERTER IC12
EEPROM IC18

— DIAGRAM (2/2) —


6
5
4
3
2
1
AUD1 R/P HEAD
CN1
FROM FM AUDIO
CN4
2
1
25
38
FROM D/A CONV.
IC9
E.VOL
FRONT VOL.
REC ADJ
IC5
AUD1 CT CANCEL
REC
PB
EE
LINE
ALC
LIM
BF
LPF1
LPF
DOLBY NR
REC OUT
ON/OFF
OUTPUT
TP1
TO FM AUDIO
CN4
6
5
IC5
BIAS TRAP
IC11
SEP
MIX
IC7
PB EQ ADJ
IC6
AUD2 CT CANCEL
AUD2/LTC R/P HEAD
CN2
CN5
26
27
RY1
AUD
LTC
IC10
IC302, IC301
LTC PB AMP
Q5
LTC HEAD SW.
IC6
BIAS TRAP
IC8
LPF2
TP2
TO FM AUDIO
CN5
22
23
9
8
FROM TC
LTC EE
IC303
TO TC
LTC PB/EE
IC304
FROM D/A CONV.
AUD1 BIAS ADJ.
AUD2 BIAS ADJ.
T201, Q201, Q203
Q205, Q207
NORM.CH1 BIAS
T202, Q202, Q204
Q206, Q208
IC201, IC202
70kHz OSC
CN201
AUD1 ERASE HEAD
AUD2 ERASE HEAD
NORM.CH1 ERASE
2 1 NORMAL AUDIO
A
B
C
E
F
G
H

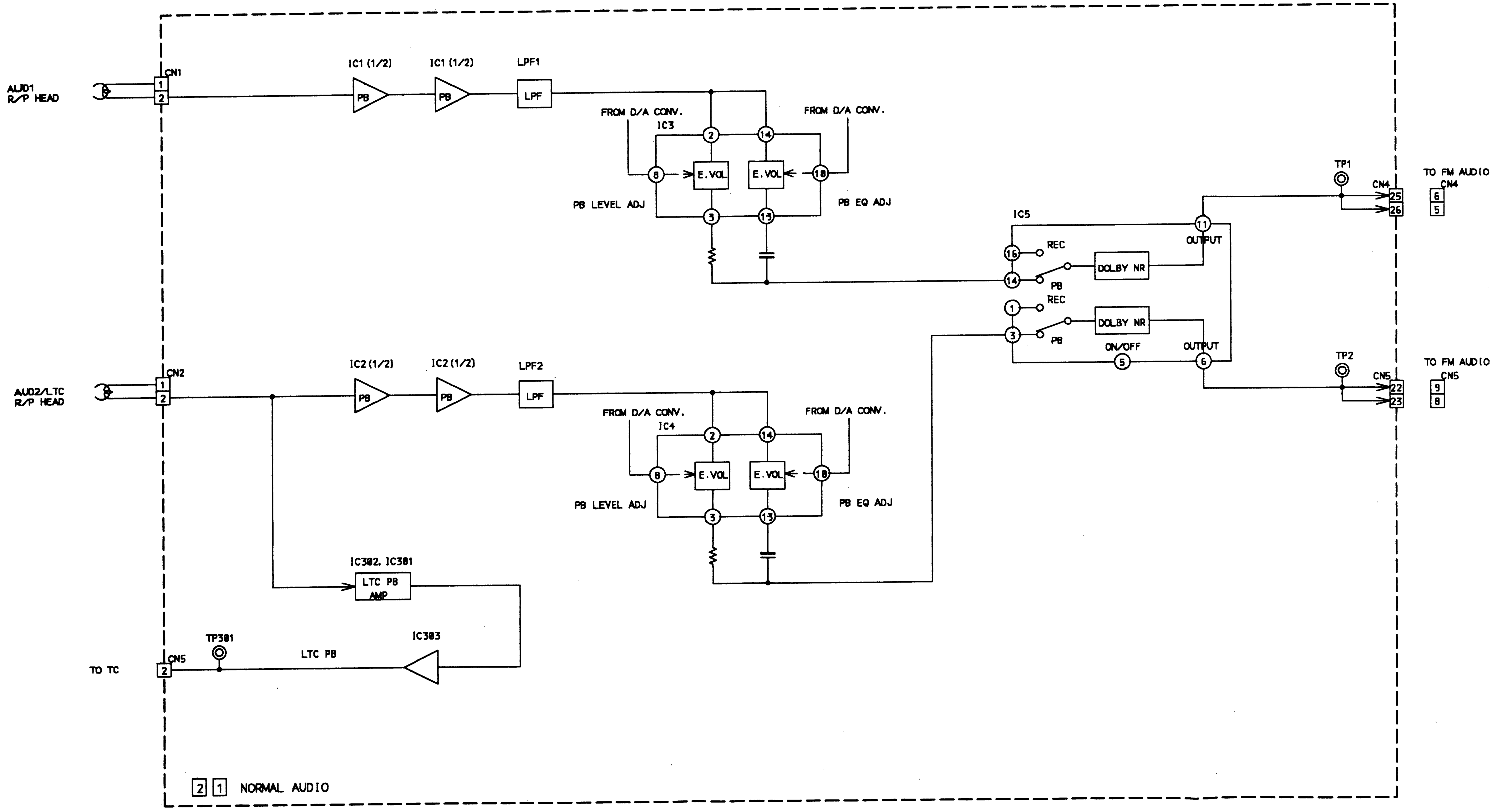
4.10 AUDIO BLOCK DIAGRAM (BR-S500E)

— DIAGRAM (1/2) —



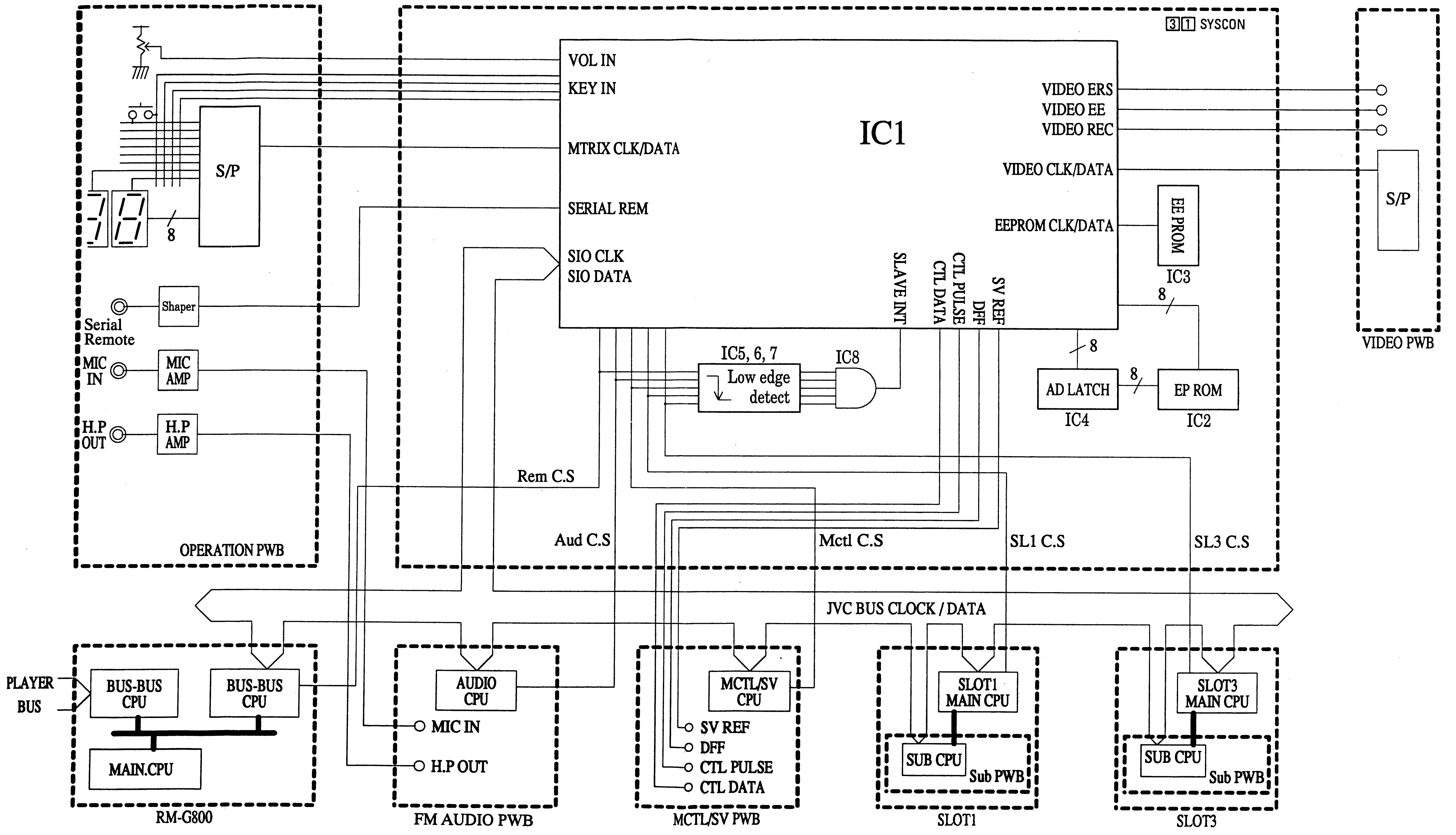
FROM D/A CONV.
IC2
E.VOL AGC
REC
PB
LPF
VCA
R57
LCH CARRIER ADJ.
EMP
LIM
VCO
LPF
TP1
TP3
BPF1 1.4MHz BPF
DE EMP
INTER-POLATION
DE MOD
LIM
TP4
BPF2 1.8MHz BPF
TP2
RCH CARRIER ADJ.
FROM D/A CONV.
CN2
IC1
REC
PRE1
PRE2
SW
A.FF
CN3
FMA CH1 HEAD
FMA CH2 HEAD
1 2 AV PRE/REC
L CH METER
R CH METER
HEAD PHONE OUT
HEAD PHONE AMP
CN4
CN3
CN2
R71
R72
IC9, Q11
METER DRIVER
IC9, Q12
METER DRIVER
IC1
HIFI
NORMAL
IC5
LCH
MIX
RCH
3 2 OP-METER
MONITOR OUT
MIX
HIFI AUDIO LCH/ NORMAL AUDIO CH1 LINE OUT
HIFI AUDIO RCH/ NORMAL AUDIO CH2 LINE OUT
NORMAL AUDIO CH1 LINE OUT
NORMAL AUDIO CH2 LINE OUT
TP1
TP2
TP3
TP4
IC3 HIFI
IC4 HIFI
NORMAL
ATT
-1dB
2 3 AV I/O
FROM NORMAL AUDIO
FROM NORMAL AUDIO
CN1
CN4
CN5
2 8 FM AUDIO
FROM D/A CONV.
IC5
E.VOL
HIFI OUTPUT LEVEL
IC6
IC13 ADJ.CH.SELECTOR
HIFI LCH
HIFI RCH
NORMAL CH1
NORMAL CH2
IC14, DA1, IC15
LEVEL DET
IC15
FREQUENCY DET
IC9
REF.SIG.OUT
AUDIO MAIN CPU
IC11
D/A CONVERTER
D/A CONVERTER
IC12
EEPROM
IC10

— DIAGRAM (2/2) —



AUD1
R/P HEAD
CN1
1
2
IC1 (1/2)
IC1 (1/2)
LPF1
PB
PB
LPF
FROM D/A CONV.
IC3
FROM D/A CONV.
2
14
8
E.VOL
E.VOL
18
PB LEVEL ADJ
PB EQ ADJ
3
13
IC5
16
REC
14
PB
DOLBY NR
11
OUTPUT
1
REC
3
PB
DOLBY NR
ON/OFF
5
OUTPUT
6
TP1
CN4
25
26
TO FM AUDIO
CN4
6
5
TP2
CN5
22
23
TO FM AUDIO
CN5
9
8
AUD2/LTC
R/P HEAD
CN2
1
2
IC2 (1/2)
IC2 (1/2)
LPF2
PB
PB
LPF
FROM D/A CONV.
IC4
FROM D/A CONV.
2
14
8
E.VOL
E.VOL
18
PB LEVEL ADJ
PB EQ ADJ
3
13
IC302, IC301
LTC PB
AMP
TP301
LTC PB
IC303
TO TC
CN5
2
2 1 NORMAL AUDIO

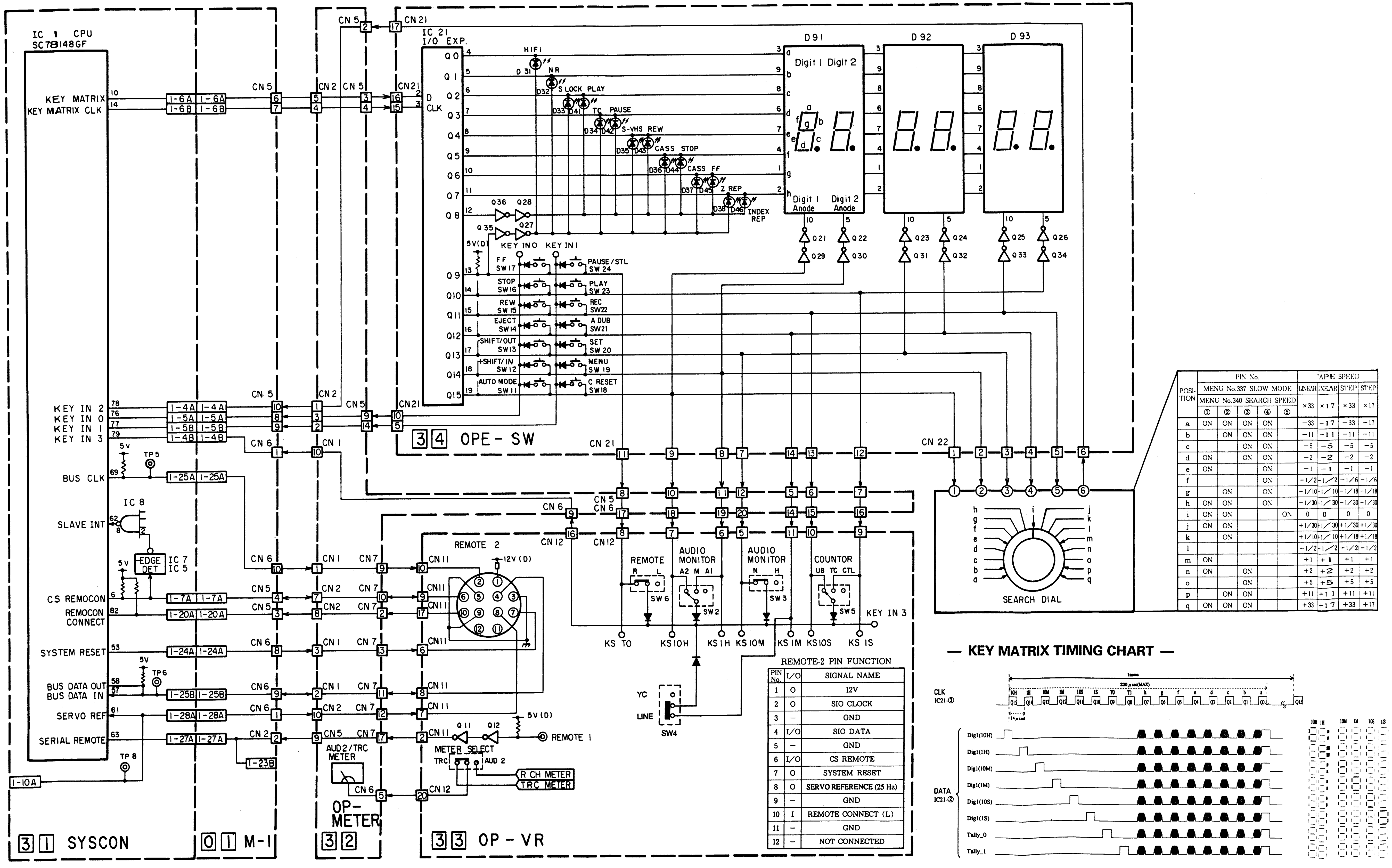
4.11 SYSCON BLOCK DIAGRAM


3 1 SYSCON
IC1
VOL IN
KEY IN
MTRIX CLK/DATA
SERIAL REM
SIO CLK
SIO DATA
VIDEO ERS
VIDEO EE
VIDEO REC
VIDEO CLK/DATA
EEPROM CLK/DATA
SLAVE INT
CTL DATA
CTL PULSE
DFF
SV REF
EE PROM
IC3
8
8
AD LATCH
IC4
8
EP ROM
IC2
IC5, 6, 7
Low edge detect
IC8
S/P
8
Shaper
Serial Remote
MIC IN
MIC AMP
H.P OUT
H.P AMP
OPERATION PWB
Rem C.S
Aud C.S
Mctl C.S
SL1 C.S
SL3 C.S
S/P
VIDEO PWB
JVC BUS CLOCK / DATA
PLAYER BUS
BUS-BUS CPU
BUS-BUS CPU
MAIN.CPU
RM-G800
AUDIO CPU
MIC IN
H.P OUT
FM AUDIO PWB
MCTL/SV CPU
SV REF
DFF
CTL PULSE
CTL DATA
MCTL/SV PWB
SLOT1 MAIN CPU
SUB CPU
Sub PWB
SLOT1
SLOT3 MAIN CPU
SUB CPU
Sub PWB
SLOT3

6
5
4
3
2
1

A B C E F G H

4.12 OPERATION BLOCK DIAGRAM


IC 1 CPU
SC78148GF
KEY MATRIX
KEY MATRIX CLK
KEY IN 2
KEY IN 0
KEY IN 1
KEY IN 3
BUS CLK
TP5
IC 8
SLAVE INT
EDGE DET
IC 7
IC 5
CS REMOCON
REMOCON CONNECT
SYSTEM RESET
BUS DATA OUT
BUS DATA IN
TP6
SERVO REF
SERIAL REMOTE
TP 8
1-10A
31 SYSCON
01 M-1
32 OP-METER
AUD2/TRC METER
33 OP-VR
REMOTE 2
12V (D)
Q 11
Q12
5V (D)
REMOTE 1
METER SELECT
TRC
AUD 2
R CH METER
TRC METER
IC 21
I/O EXP.
HIFI
NR
S LOCK
PLAY
TC
PAUSE
S-VHS
REW
CASS
STOP
FF
Z REP
INDEX REP
D 91
D 92
D 93
Digit 1
Digit 2
Digit 1 Anode
Digit 2 Anode
KEY IN0
KEY IN1
FF SW17
PAUSE/STL SW 24
STOP SW16
PLAY SW 23
REW SW 15
REC SW22
EJECT SW14
A DUB SW21
SHIFT/OUT SW13
SET SW 20
+SHIFT/IN SW12
MENU SW 19
AUTO MODE SW 11
C RESET SW18
34 OPE-SW
CN 21
CN 22
REMOTE
AUDIO MONITOR
COUNTOR
SW 6
SW 2
SW 3
SW5
KEY IN 3
KS TO
KS 10H
KS 1H
KS 10M
KS 1M
KS 10S
KS 1S
YC
LINE
SW4
SEARCH DIAL

POSITION	PIN No.					TAPE SPEED			
	MENU No.337 SLOW MODE					LINEAR	LINEAR	STEP	STEP
	MENU No.340 SEARCH SPEED					×33	×17	×33	×17
	①	②	③	④	⑤				
a	ON	ON	ON	ON		−33	−17	−33	−17
b		ON	ON	ON		−11	−11	−11	−11
c			ON	ON		−5	−5	−5	−5
d	ON		ON	ON		−2	−2	−2	−2
e	ON			ON		−1	−1	−1	−1
f				ON		−1/2	−1/2	−1/6	−1/6
g		ON		ON		−1/10	−1/10	−1/18	−1/18
h	ON	ON		ON		−1/30	−1/30	−1/30	−1/30
i	ON	ON			ON	0	0	0	0
j	ON	ON				+1/30	+1/30	+1/30	+1/30
k		ON				+1/10	+1/10	+1/18	+1/18
l						−1/2	−1/2	−1/2	−1/2
m	ON					+1	+1	+1	+1
n	ON		ON			+2	+2	+2	+2
o			ON			+5	+5	+5	+5
p		ON	ON			+11	+11	+11	+11
q	ON	ON	ON			+33	+17	+33	+17

REMOTE-2 PIN FUNCTION

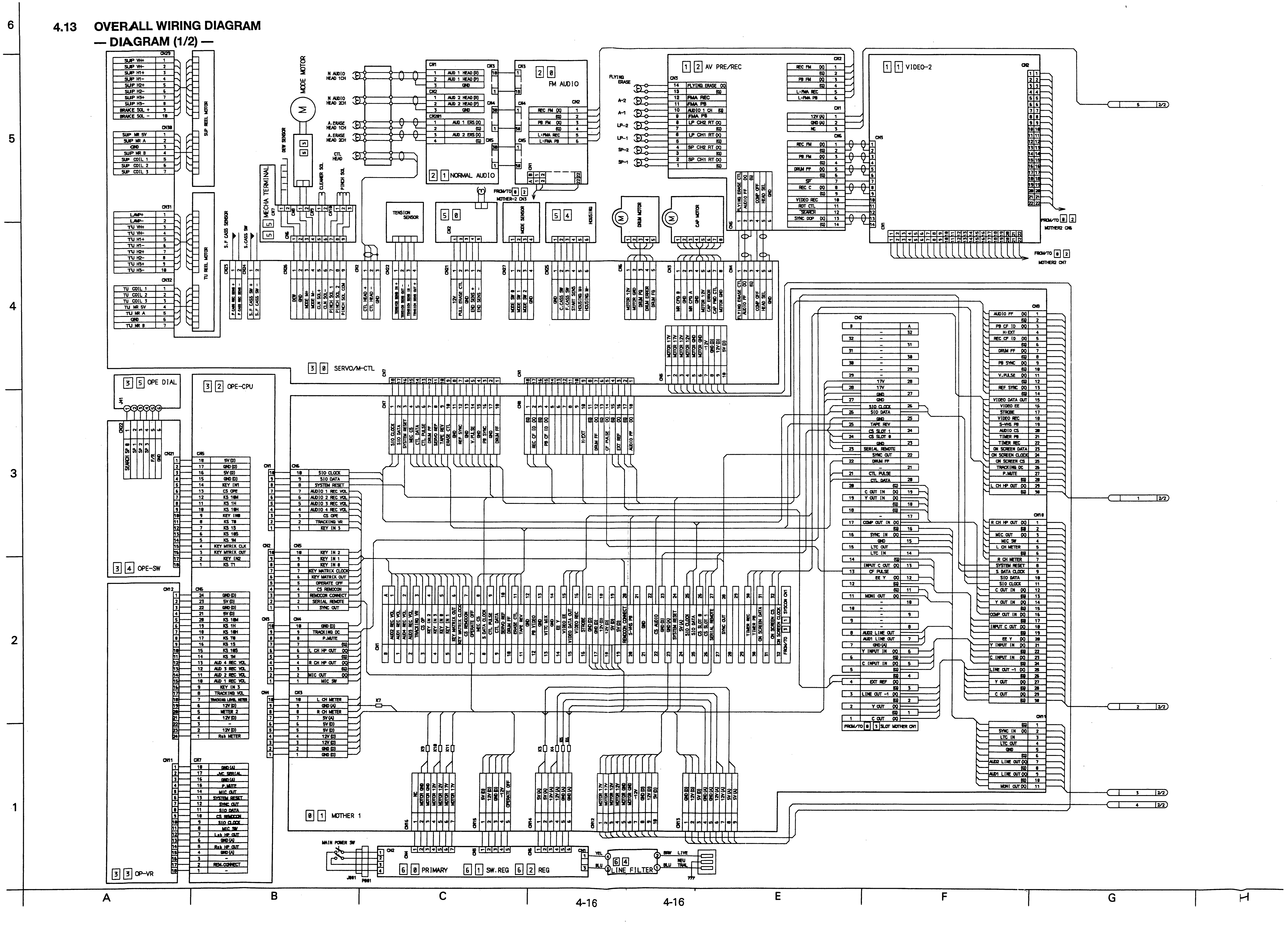
PIN No.	I/O	SIGNAL NAME
1	O	12V
2	O	SIO CLOCK
3	–	GND
4	I/O	SIO DATA
5	–	GND
6	I/O	CS REMOTE
7	O	SYSTEM RESET
8	O	SERVO REFERENCE (25 Hz)
9	–	GND
10	I	REMOTE CONNECT (L)
11	–	GND
12	–	NOT CONNECTED

— KEY MATRIX TIMING CHART —

CLK
IC21-③
DATA
IC21-②
Digi1(10H)
Digi1(1H)
Digi1(10M)
Digi1(1M)
Digi1(10S)
Digi1(1S)
Tally_0
Tally_1
10H
1H
10M
1M
10S
1S

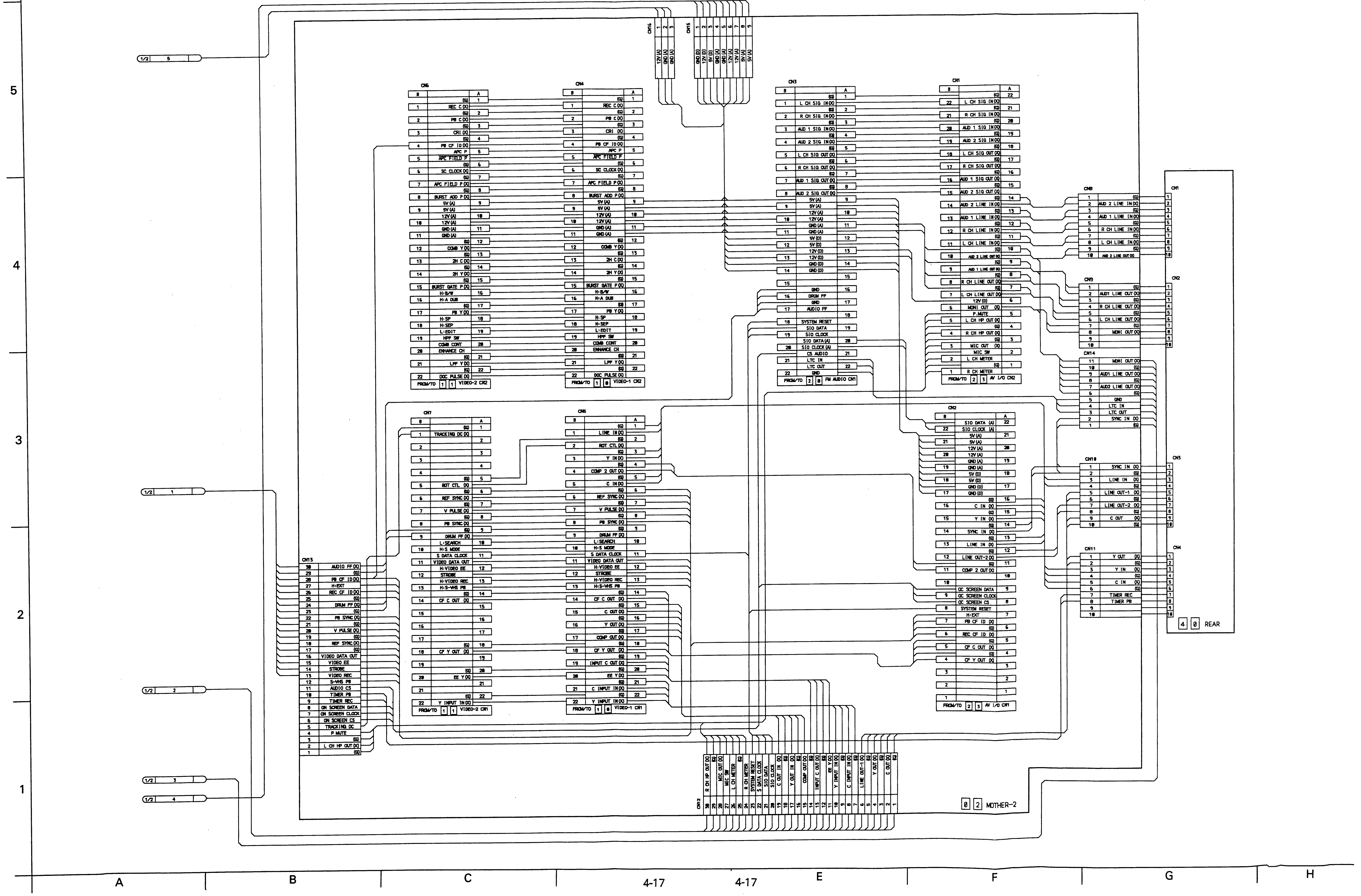
4.13 OVERALL WIRING DIAGRAM

— DIAGRAM (1/2) —



6
5
4
3
2
1
SUP REEL MOTOR
TU REEL MOTOR
MODE MOTOR
DEW SENSOR
CLEANER SOL
PINCH SOL
5 5 MECHA TERMINAL
S.F CASS SENSOR
S.CASS SW
N AUDIO HEAD 1CH
N AUDIO HEAD 2CH
A.ERASE HEAD 1CH
A.ERASE HEAD 2CH
CTL HEAD
2 1 NORMAL AUDIO
2 0 FM AUDIO
FROM/TO 0 2 MOTHER-2 CN3
TENSION SENSOR
5 0
MODE SENSOR
5 4 HOUSING
DRUM MOTOR
CAP MOTOR
FLYING ERASE
1 2 AV PRE/REC
1 1 VIDEO-2
FROM/TO 0 2 MOTHER2 CN6
FROM/TO 0 2 MOTHER2 CN7
3 0 SERVO/M-CTL
3 5 OPE DIAL
3 2 OPE-CPU
3 4 OPE-SW
3 3 OP-VR
0 1 MOTHER 1
FROM/TO 0 3 SLOT MOTHER CN1
MAIN POWER SW
6 0 PRIMARY
6 1 SW.REG
6 2 REG
6 4 LINE FILTER
A
B
C
D
E
F
G
H

— DIAGRAM (2/2) —


1/2 5
1/2 1
1/2 2
1/2 3
1/2 4
CN16
CN15
CN6
CN4
CN3
CN1
CN7
CN5
CN2
CN13
CN8
CN9
CN14
CN10
CN11
CN12
FROM/TO 1 1 VIDEO-2 CN2
FROM/TO 1 0 VIDEO-1 CN2
FROM/TO 2 0 FM AUDIO CN1
FROM/TO 2 3 AV I/O CN2
FROM/TO 1 1 VIDEO-2 CN1
FROM/TO 1 0 VIDEO-1 CN1
FROM/TO 2 3 AV I/O CN1
4 0 REAR
0 2 MOTHER-2
1
2
3
4
5
6
A
B
C
E
F
G
H

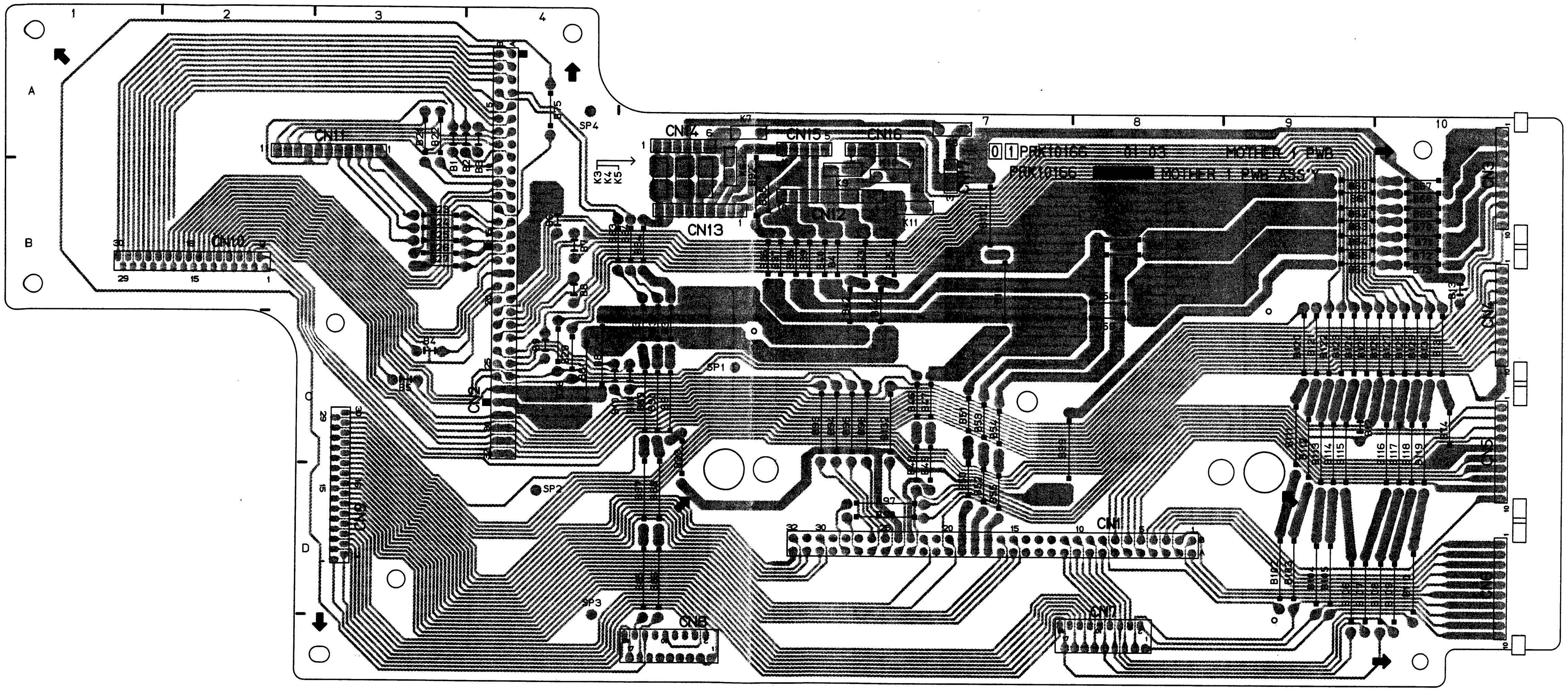
6

4.14 MOTHER-1 CIRCUIT BOARD

5

— SOLDER Side —

4


1
2
3
4
7
8
9
10
A
B
C
D
CN11
CN10
CN12
CN13
CN14
CN15
CN16
CN1
CN7
CN8
CN9
SP1
SP2
SP3
SP4
K3
K4
K5
01 PRK10166 01-03 MOTHER 1 PWB
PRK10166 MOTHER 1 PWB ASS'Y

3

(PRK10166-01-03)

2

1

6

4.15 MOTHER-2 CIRCUIT BOARD

5

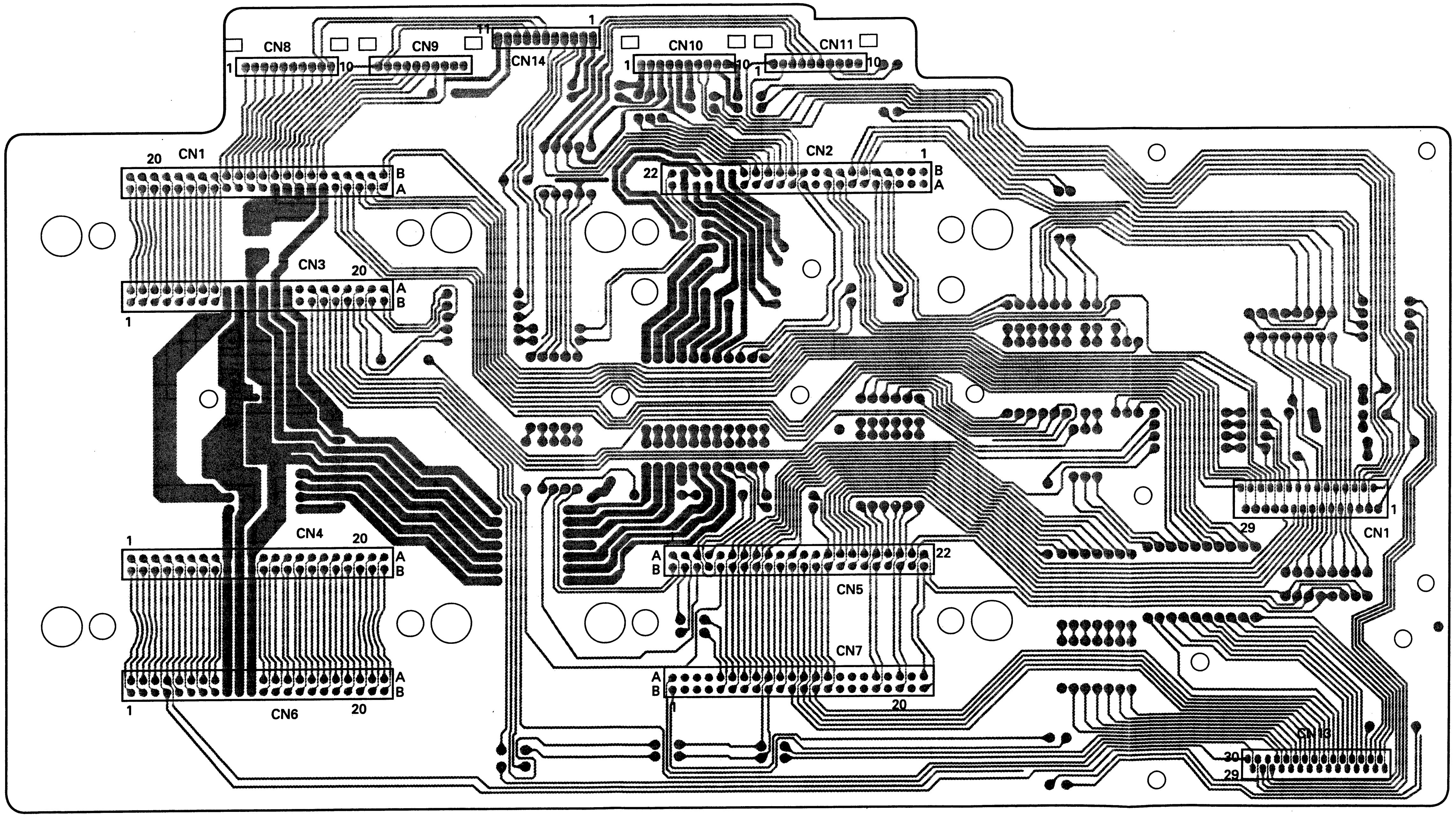
— SOLDER Side —

4

3

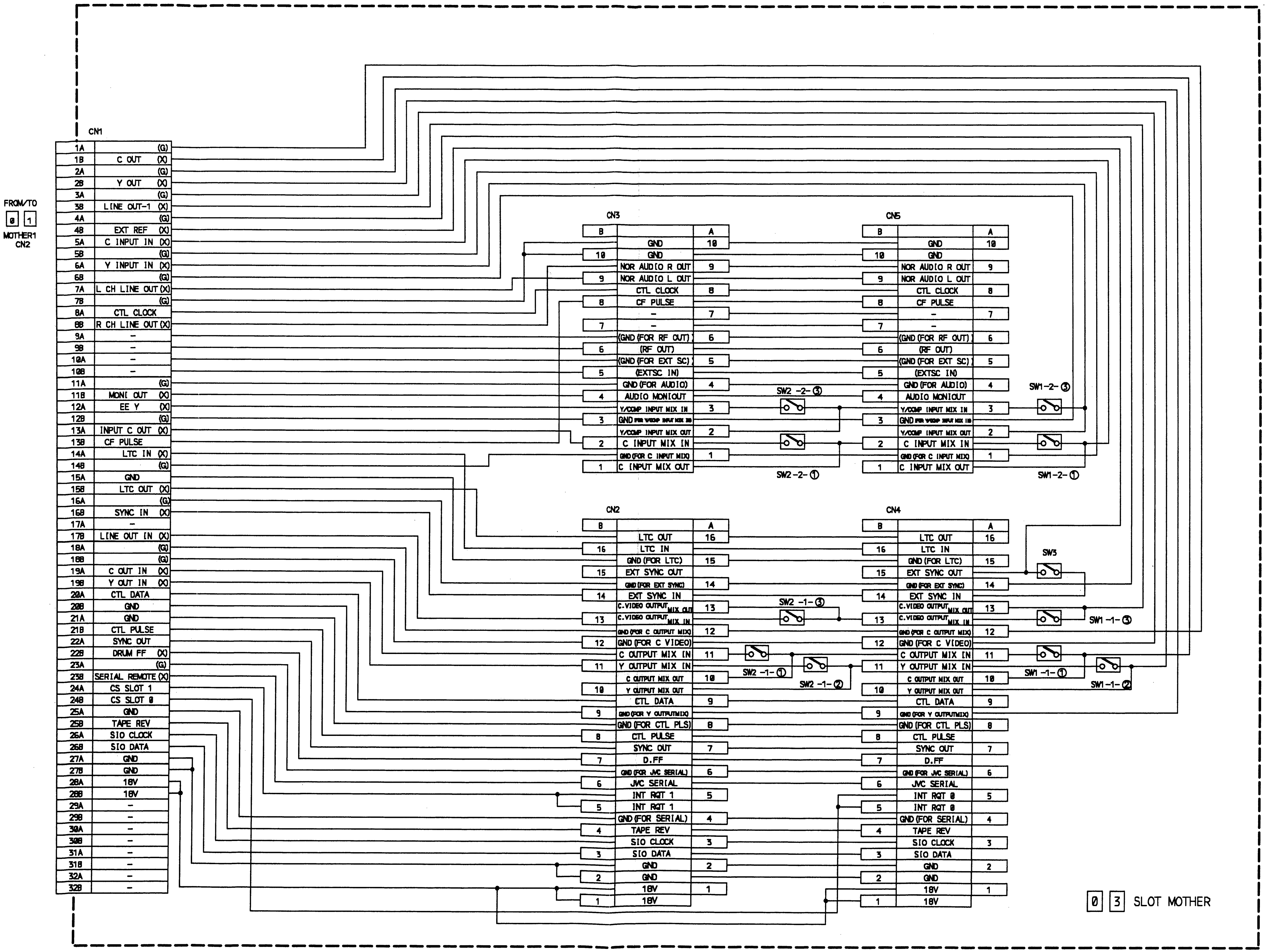
2

1


CN8
1
10
CN9
11
1
CN14
CN10
1
10
1
CN11
10
20
CN1
B
A
22
CN2
1
B
A
CN3
20
A
B
1
CN4
20
A
B
1
CN6
20
A
B
1
A
B
22
CN5
CN7
A
B
1
20
29
1
CN1
CN13
30
29

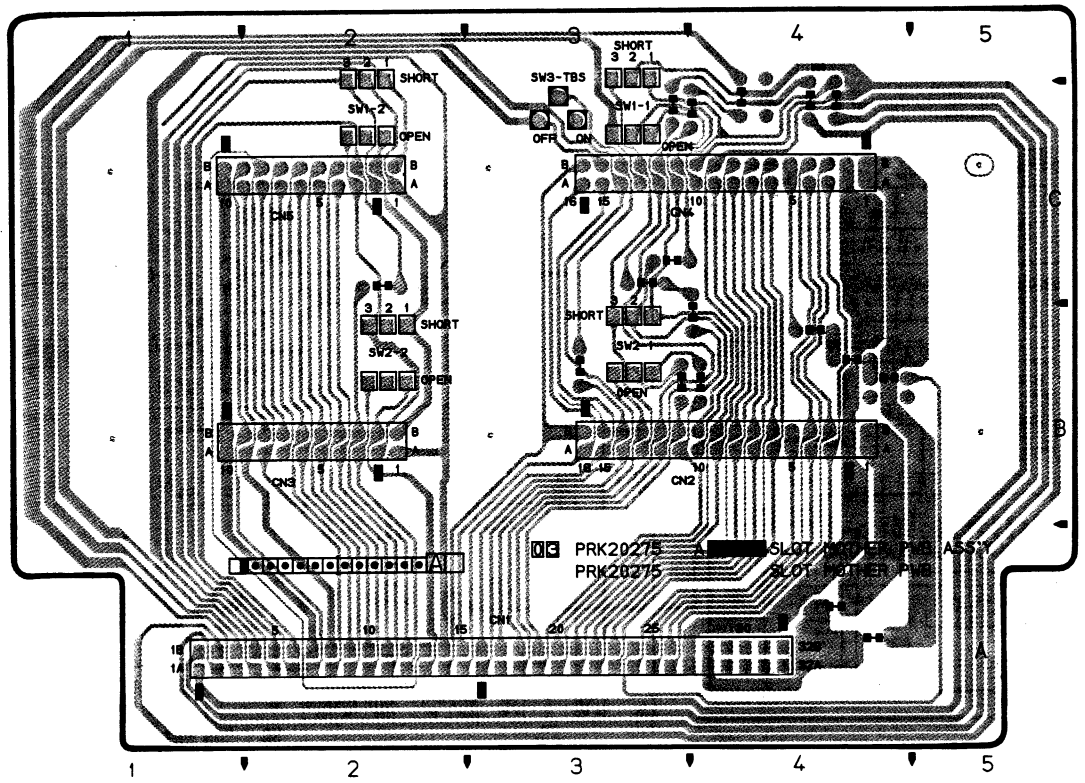
(PRK10164-01-01)

4.16 SLOT MOTHER SCHEMATIC DIAGRAM


CN1
FROM/TO
0 1
MOTHER1 CN2
1A (G)
1B C OUT (X)
2A (G)
2B Y OUT (X)
3A (G)
3B LINE OUT-1 (X)
4A (G)
4B EXT REF (X)
5A C INPUT IN (X)
5B (G)
6A Y INPUT IN (X)
6B (G)
7A L CH LINE OUT (X)
7B (G)
8A CTL CLOCK
8B R CH LINE OUT (X)
9A –
9B –
10A –
10B –
11A (G)
11B MONI OUT (X)
12A EE Y (X)
12B (G)
13A INPUT C OUT (X)
13B CF PULSE
14A LTC IN (X)
14B (G)
15A GND
15B LTC OUT (X)
16A (G)
16B SYNC IN (X)
17A –
17B LINE OUT IN (X)
18A (G)
18B (G)
19A C OUT IN (X)
19B Y OUT IN (X)
20A CTL DATA
20B GND
21A GND
21B CTL PULSE
22A SYNC OUT
22B DRUM FF (X)
23A (G)
23B SERIAL REMOTE (X)
24A CS SLOT 1
24B CS SLOT 0
25A GND
25B TAPE REV
26A SIO CLOCK
26B SIO DATA
27A GND
27B GND
28A 18V
28B 18V
29A –
29B –
30A –
30B –
31A –
31B –
32A –
32B –
CN3
CN5
B
A
GND 10
10 GND
NOR AUDIO R OUT 9
9 NOR AUDIO L OUT
CTL CLOCK 8
8 CF PULSE
– 7
7 –
(GND (FOR RF OUT)) 6
6 (RF OUT)
(GND (FOR EXT SC)) 5
5 (EXTSC IN)
GND (FOR AUDIO) 4
4 AUDIO MONIOUT
Y/COMP INPUT MIX IN 3
3 GND FOR Y/COMP INPUT MIX IN
Y/COMP INPUT MIX OUT 2
2 C INPUT MIX IN
GND (FOR C INPUT MIX) 1
1 C INPUT MIX OUT
SW2 -2- ③
SW2-2- ①
SW1-2- ③
SW1-2- ①
CN2
CN4
LTC OUT 16
16 LTC IN
GND (FOR LTC) 15
15 EXT SYNC OUT
GND (FOR EXT SYNC) 14
14 EXT SYNC IN
C.VIDEO OUTPUT MIX OUT 13
13 C.VIDEO OUTPUT MIX IN
GND (FOR C OUTPUT MIX) 12
12 GND (FOR C VIDEO)
C OUTPUT MIX IN 11
11 Y OUTPUT MIX IN
C OUTPUT MIX OUT 10
10 Y OUTPUT MIX OUT
CTL DATA 9
9 GND (FOR Y OUTPUTMIX)
GND (FOR CTL PLS) 8
8 CTL PULSE
SYNC OUT 7
7 D.FF
GND (FOR JVC SERIAL) 6
6 JVC SERIAL
INT RQT 1 5
5 INT RQT 1
INT RQT 0 5
5 INT RQT 0
GND (FOR SERIAL) 4
4 TAPE REV
SIO CLOCK 3
3 SIO DATA
GND 2
2 GND
18V 1
1 18V
SW3
SW2 -1- ③
SW2 -1- ①
SW2 -1- ②
SW1 -1- ③
SW1 -1- ①
SW1 -1- ②
0 3 SLOT MOTHER
1
2
3
4
5
A
B
C
E
F
G
H

4.17 SLOT MOTHER CIRCUIT BOARD

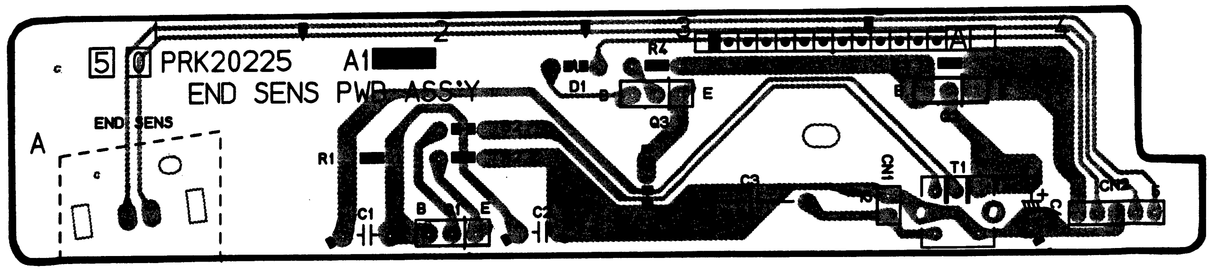
— SOLDER Side —


1
2
3
4
5
SHORT
SW1-2
OPEN
SW3-TBS
OFF
ON
SW1-1
CN5
CN4
SW2-2
SW2-1
CN3
CN2
CN1
PRK20275
SLOT MOTHER PWB ASS'Y

(PRK20275)

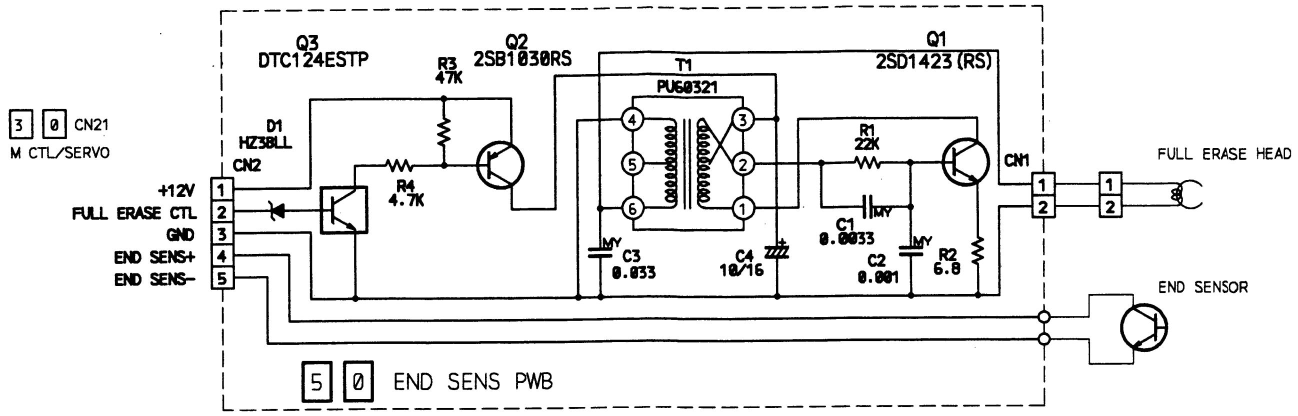
4.18 END SENSOR CIRCUIT BOARD

— SOLDER Side —


5 0 PRK20225 A1
END SENS PWB ASS'Y
END SENS
A
R4
D1
Q3
E
R1
C1
B
C2
C3
CN1
T1
CN2

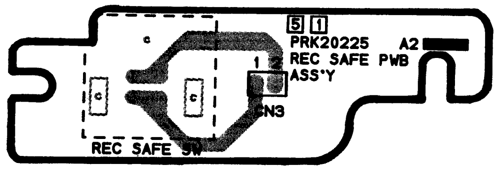
(PRK20225-01-03)

4.19 END SENSOR SCHEMATIC DIAGRAM


3 0 CN21
M CTL/SERVO
CN2
+12V 1
FULL ERASE CTL 2
GND 3
END SENS+ 4
END SENS- 5
D1
HZ3BLL
Q3
DTC124ESTP
R3
47K
R4
4.7K
Q2
2SB1030RS
T1
PU60321
C3
0.033
C4
10/16
Q1
2SD1423 (RS)
R1
22K
C1
0.0033
MY
C2
0.001
R2
6.8
CN1
FULL ERASE HEAD
END SENSOR
5 0 END SENS PWB

4.20 REC SAFE SW, S-SWITCH, MODE MOTOR, M-TERMINAL, A/C HEAD, C. HOUSING CIRCUIT BOARDS

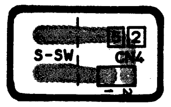
— REC SAFE SW —


5 1
PRK20225 A2
REC SAFE PWB
ASS'Y
CN3
REC SAFE SW

(PRK20225-01-03)

— SOLDER Side —

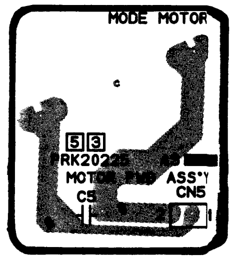
— S. SWITCH —



(PRK20225-01-03)

— SOLDER Side —

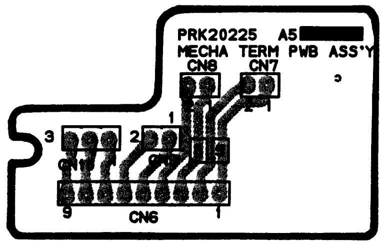
— MODE MOTOR —


MODE MOTOR
5 3
PRK20225
MOTOR PWB ASS'Y
C5
CN5

(PRK20225-01-03)

— SOLDER Side —

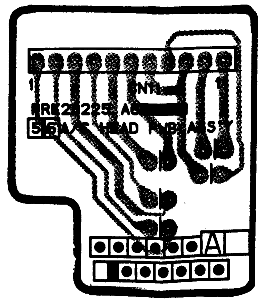
— M-TERMINAL —


PRK20225 A5
MECHA TERM PWB ASS'Y
CN8
CN7
3
2
1
9
CN6
1

(PRK20225-01-03)

— SOLDER Side —

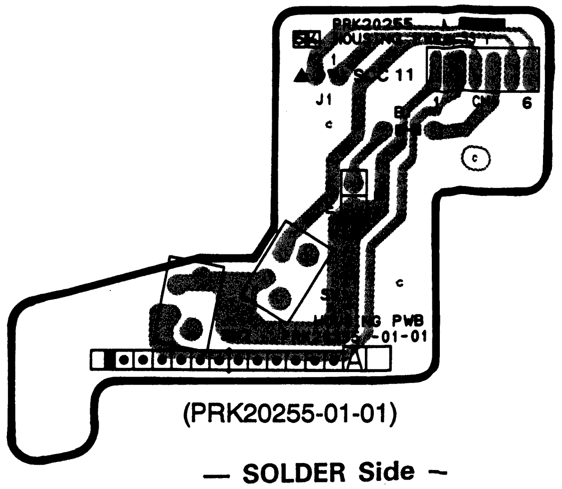
— A/C HEAD —


PRK20225 A
A/C HEAD PWB ASS'Y
A

(PRK20225-01-03)

— SOLDER Side —

— C. HOUSING —

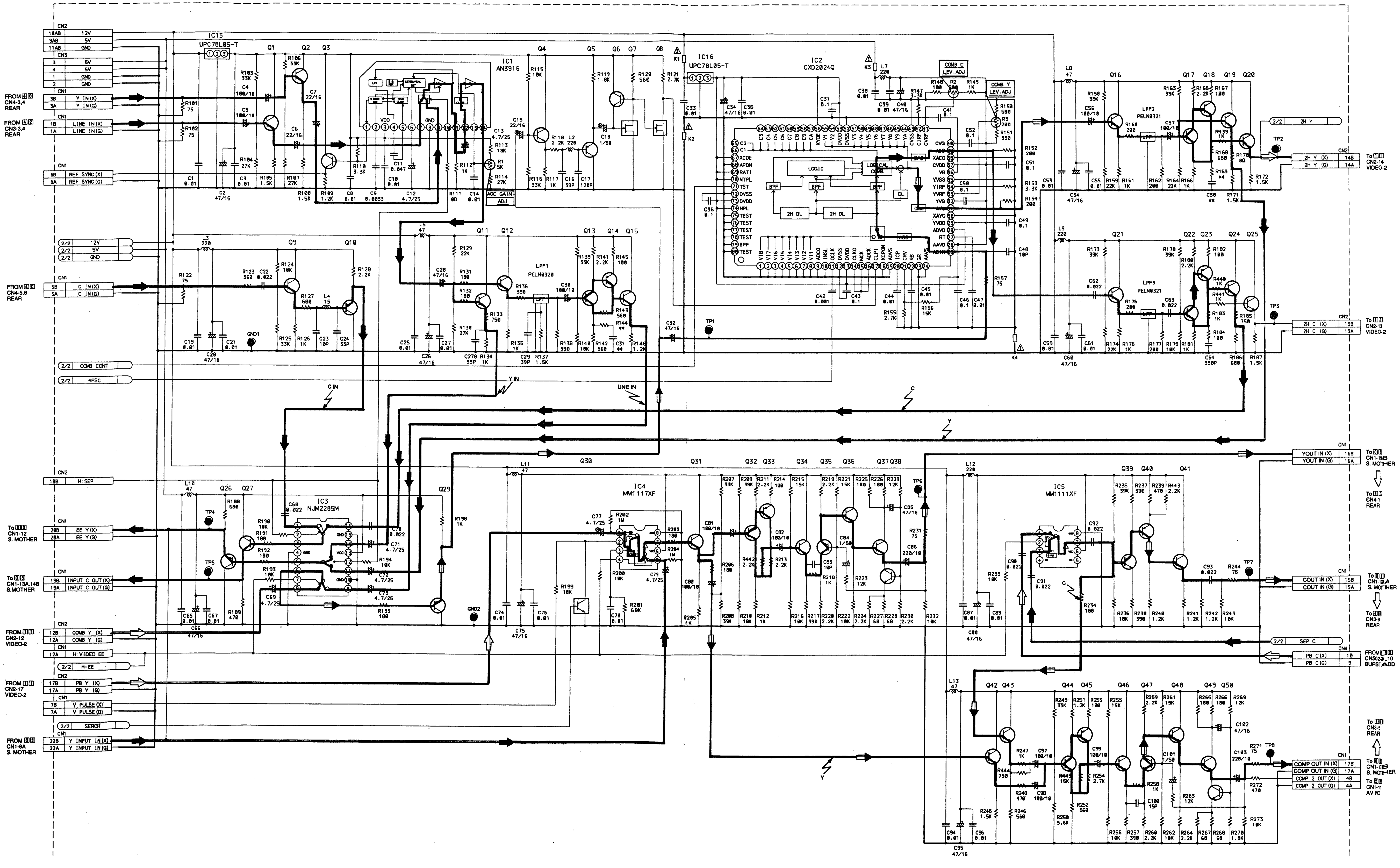

PRK20255
HOUSING
J1
11
6
A

(PRK20255-01-01)

— SOLDER Side —

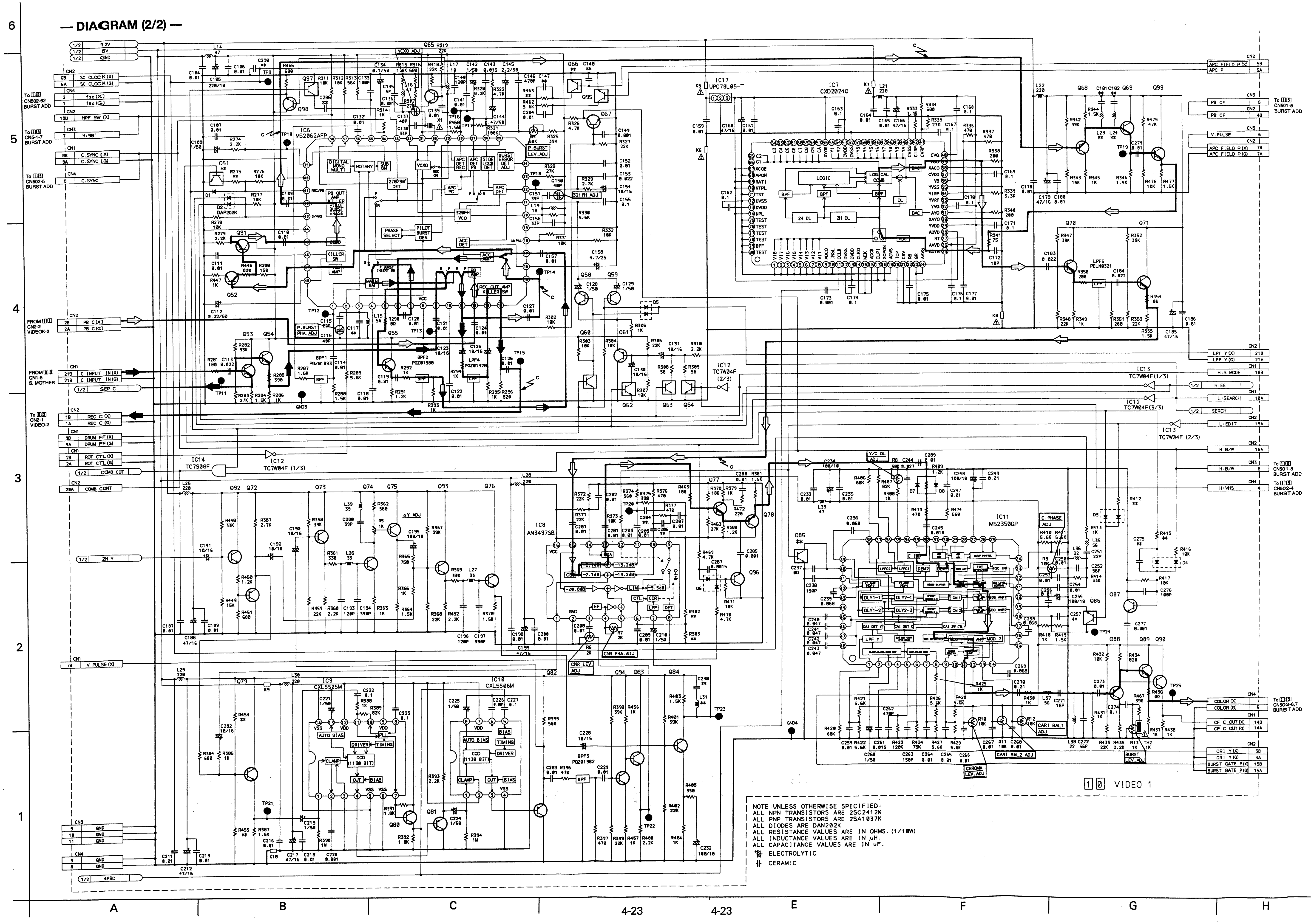
4.21 VIDEO-1 SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —



CN2
16AB 12V
9AB 5V
11AB GND
CN3
3 5V
4 5V
1 GND
2 GND
CN1
3B Y IN(X)
3A Y IN(G)
1B LINE IN(X)
1A LINE IN(G)
6B REF SYNC(X)
6A REF SYNC(G)
FROM CN4-3,4 REAR
FROM CN3-3,4 REAR
IC15 UPC78L05-T
IC1 AN3916
AGC GAIN ADJ
IC16 UPC78L05-T
IC2 CXD2024Q
COMB C LEV.ADJ
COMB Y LEV.ADJ
LOGIC
LOGICAL COMB
BPF
2H DL
DL
LPF1 PELN0320
LPF2 PELN0321
LPF3 PELN0321
2/2 12V
2/2 5V
2/2 GND
FROM CN4-5,6 REAR
5B C IN(X)
5A C IN(G)
2/2 COMB CONT
2/2 4FSC
GND1
GND2
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
2/2 2H Y
2H Y (X) 14B
2H Y (G) 14A
To CN2-14 VIDEO-2
2H C (X) 13B
2H C (G) 13A
To CN2-13 VIDEO-2
C IN
Y IN
LINE IN
C
Y
CN2
18B H:SEP
IC3 NJM2285M
IC4 MM1117XF
IC5 MM1111XF
To CN1-12 S. MOTHER
20B EE Y(X)
20A EE Y(G)
To CN1-13A,14B S.MOTHER
19B INPUT C OUT(X)
19A INPUT C OUT(G)
FROM CN2-12 VIDEO-2
12B COMB Y (X)
12A COMB Y (G)
12A H:VIDEO EE
2/2 H:EE
FROM CN2-17 VIDEO-2
17B PB Y (X)
17A PB Y (G)
7B V PULSE(X)
7A V PULSE(G)
2/2 SERCH
FROM CN1-6A S. MOTHER
22B Y INPUT IN(X)
22A Y INPUT IN(G)
YOUT IN (X) 16B
YOUT IN (G) 16A
To CN1-1 S. MOTHER
To CN4-1 REAR
COUT IN (X) 15B
COUT IN (G) 15A
To CN1-15A S. MOTHER
To CN3-9 REAR
2/2 SEP C
PB C(X) 10
PB C(G) 9
FROM CN502-9,10 BURST ADD
COMP OUT IN (X) 17B
COMP OUT IN (G) 17A
COMP 2 OUT (X) 4B
COMP 2 OUT (G) 4A
To CN3-5 REAR
To CN1-1 S. MOTHER
To CN1-11 AV I/O
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q29 Q30 Q31 Q32 Q33 Q34 Q35 Q36 Q37 Q38 Q39 Q40 Q41 Q42 Q43 Q44 Q45 Q46 Q47 Q48 Q49 Q50
5
4
3
2
1
A
B
C
E
F
G
H

— DIAGRAM (2/2) —


6
5
4
3
2
1
A
B
C
D
E
F
G
H
1/2 12V
1/2 5V
1/2 GND
CN2 6B SC CLOCK (X)
6A SC CLOCK (G)
To 1 0 CN502-62 BURST ADD
CN4 2 fsc (X)
1 fsc (G)
CN2 19B HPF SW (X)
To 1 0 CN5-1-7 BURST ADD
CN3 7 H 90°
CN1 8B C.SYNC (X)
8A C.SYNC (G)
To 1 0 CN502-5 BURST ADD
CN4 5 C.SYNC
FROM 1 0 CN2-2 VIDEOK-2
CN2 2B PB C (X)
2A PB C (G)
FROM 1 0 CN1-5 S.MOTHER
CN1 21B C INPUT IN (X)
21B C INPUT IN (G)
1/2 SEP C
To 1 0 CN2-1 VIDEO-2
CN2 1B REC C (X)
1A REC C (G)
CN1 9B DRUM FF (X)
9A DRUM FF (G)
CN1 2B ROT CTL (X)
2A ROT CTL (G)
1/2 COMB COT
CN2 28A COMB CONT
1/2 2H Y
CN1 7B V.PULSE (X)
CN3 9 GND
10 GND
11 GND
CN4 3 GND
8 GND
1/2 4FSC
IC6 M52062AFP
DIGITAL MONO MULTI
ROTARY
SUB SW
VCXO
REC ON
270/90° DET
APC PC
APC DET REC
APC DET PB
SIDE LOCK DET
BURST ERROR DET ADJ
APC DET
320fH VCO
PB OUT AMP KILLER PILOT BURST ERASE
COMB
PHASE SELECT
PILOT BURST GEN
ACC DET
KILLER SW
REC AMP
P.BURST INSERT SW
MAIN SW
ACC AMP
PB AMP
REC OUT AMP
KILLER SW
VCXO ADJ
P.BURST LEV.ADJ
321fH ADJ
P.BURST PHA.ADJ
BPF1 PGZ01093
BPF2 PGZ01980
LPF4 PGZ01328
IC14 TC7S08F
IC12 TC7W04F (1/3)
IC17 UPC78L05-T
IC7 CXD2024Q
LOGIC
LOGICAL COMB
BPF
2H DL
DL
DAC
ADC
IC12 TC7W04F (2/3)
IC13 TC7W04F (1/3)
IC12 TC7W04F (3/3)
IC13 TC7W04F (2/3)
LPF5 PELN0321
IC8 AN3497SB
CNR LEV. ADJ
CNR PHA.ADJ
IC11 M52350GP
Y/C DL ADJ
C.PHASE ADJ
CARI BAL1 ADJ
CARI BAL2 ADJ
CHROMA LEV.ADJ
BURST LEV.ADJ
ΔY ADJ
IC9 CXL5505M
IC10 CXL5506M
AUTO BIAS
DRIVER
TIMING
CLAMP
CCD (1130 BIT)
OUT
BIAS
PLL
BPF3 PGZ01982
CN2 APC FIELD P (X) 5B
APC P 5A
To 1 0 CN501-5 BURST ADD
CN3 PB CF 5
CN2 PB CF 4B
CN3 V.PULSE 6
CN2 APC FIELD P (X) 7B
APC FIELD P (G) 7A
CN2 LPF Y (X) 21B
LPF Y (G) 21A
CN1 H.S MODE 10B
1/2 H:EE
CN1 L-SEARCH 10A
1/2 SERCH
CN1 L:EDIT 19A
CN2 H:B/W 16A
To 1 0 CN501-8 BURST ADD
CN3 H:B/W 8
To 1 0 CN502-4 BURST ADD
CN4 H:VHS 4
To 1 0 CN502-6,7 BURST ADD
CN4 COLOR (X) 7
COLOR (G) 6
CN1 CF C OUT (X) 14B
CF C OUT (G) 14A
CN2 CRI Y (X) 3B
CRI Y (G) 3A
BURST GATE P (X) 15B
BURST GATE P (G) 15A
1 0 VIDEO 1

NOTE:UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS.(1/10W)
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
CERAMIC

6

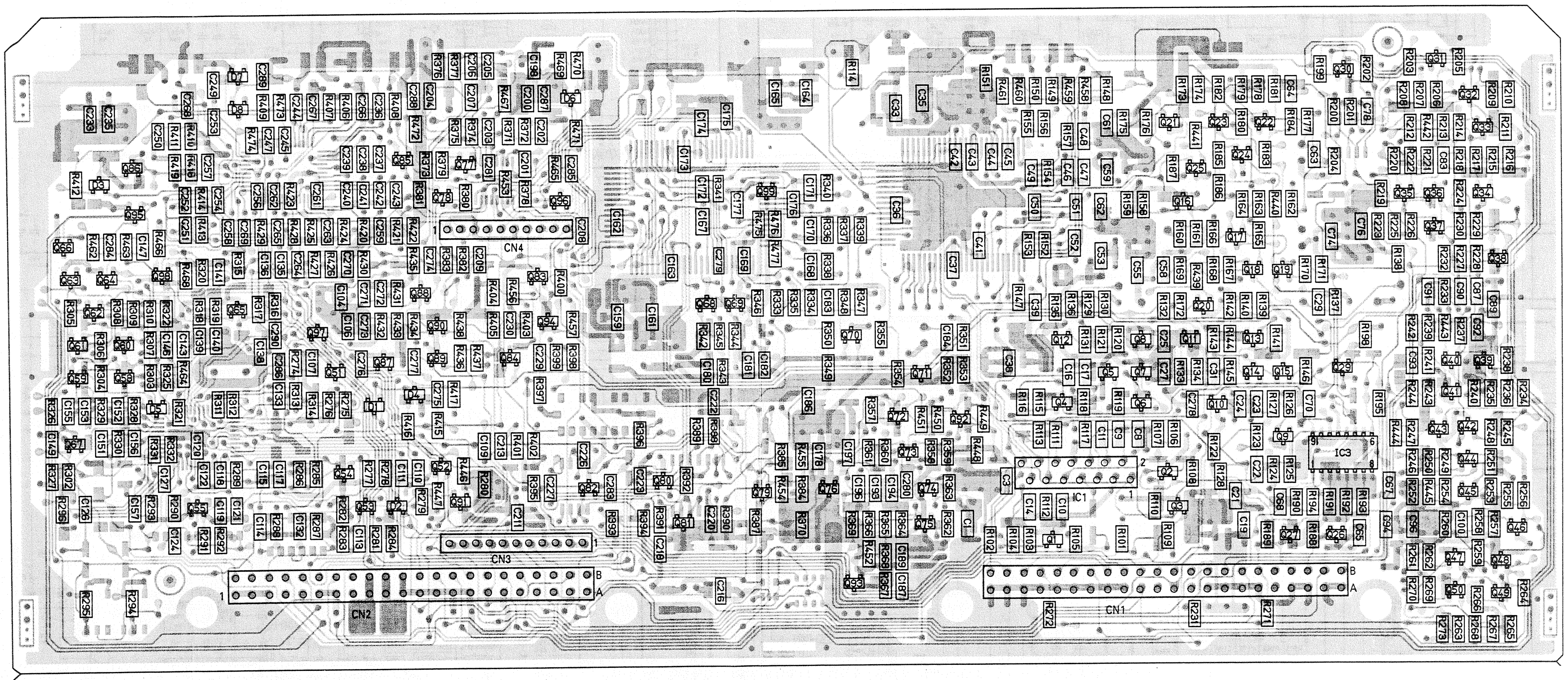
4.22 VIDEO-1 CIRCUIT BOARD

5

— SOLDER Side —

4

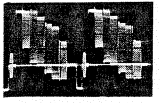
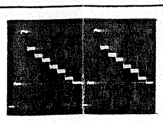
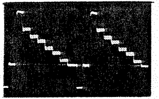
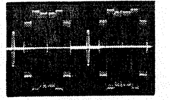
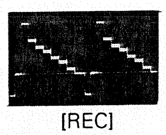
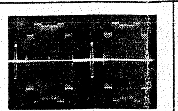
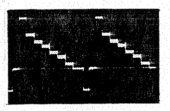
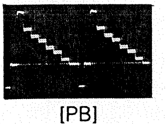
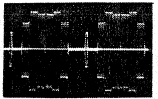
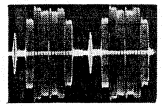
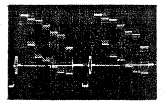
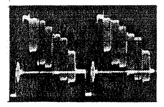
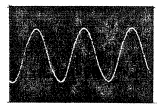
3



(PRK20262-01-02)

2

— MAIN WAVEFORMS OF VIDEO-1 CIRCUIT —

TP1		TP2	TP3	TP4	TP5	TP6		TP7		TP8		TP9
												
[REC] 1.5 Vp-p – S-VHS –	[PB] 1.5 Vp-p – MHVE-2H –	[PB] 1.8 Vp-p – MHVE-2H –	[REC] Burest level: 0.5 Vp-p – S-VHS –	[REC] 1.0 Vp-p – S-VHS –	[REC] Burst level: 0.24 Vp-p – S-VHS –	[REC] 2.1 Vp-p – S-VHS –	[PB] 2.0 Vp-p – MHVE-2H –	[REC] Burst level: 0.59 Vp-p – S-VHS –	[PB] Burst level: 0.6 Vp-p – MHVE-2H –	[REC] 2.1 Vp-p – S-VHS –	[PB] 2.1 Vp-p – MHVE-2H –	[REC] 0.76 Vp-p/4.4 MHz – S-VHS –

1

6

5

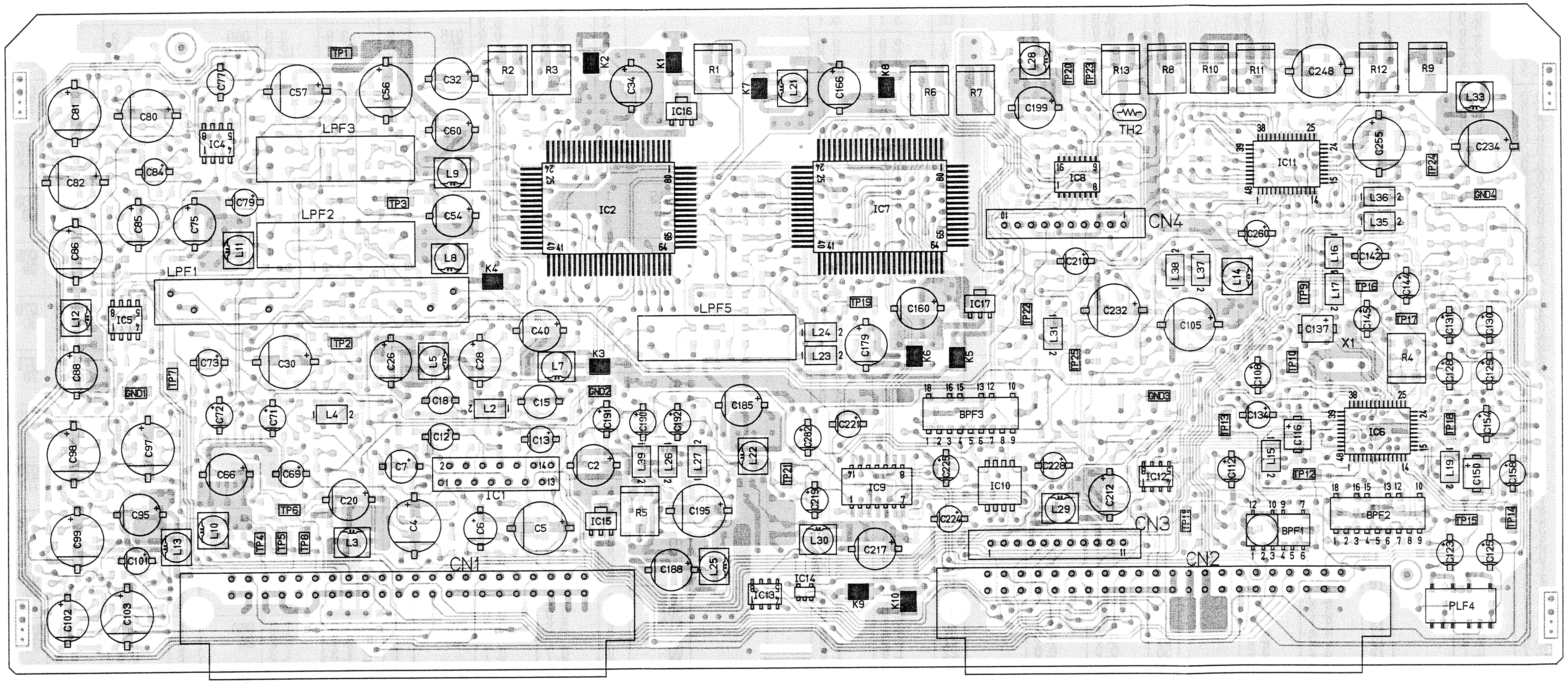
4

3

2

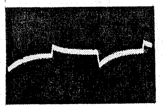
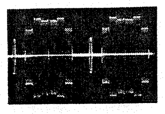
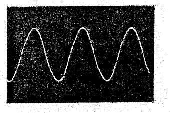
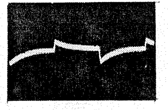
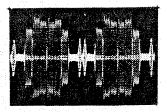
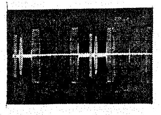
1

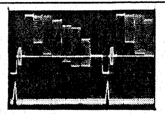
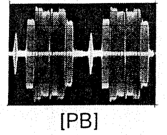
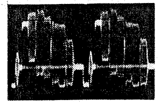
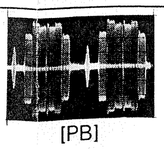
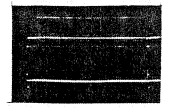
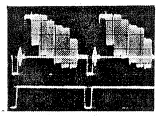
— PARTS Side —


LPF1
LPF2
LPF3
LPF5
BPF1
BPF2
BPF3
PLF4
IC1
IC2
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
CN1
CN2
CN3
CN4
X1
TH2
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
TP23
TP24
GND1
GND2
GND3
GND4
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10

(PRK20262-01-02)

— MAIN WAVEFORMS OF VIDEO-1 CIRCUIT —

TP10	TP11	TP12	TP13	TP14	TP15
					
[REC] 0.035 Vp-p/7.8 Vp-p – S-VHS –	[REC] Burst level: 0.26 Vp-p – S-VHS –	[REC] 0.18 Vp-p/5 MHz – S-VHS –	[REC] Burst level: 0.18 Vp-p – S-VHS –	[PB] Burst level: 0.14 Vp-p – MHVE-2H –	[REC] Burst level: 0.22 Vp-p – S-VHS –

TP18	TP19	TP21	TP22	TP23	TP24
					
[REC] Upper: VIDEO OUT Lower: TP18	[PB] Burst level: 0.86 Vp-p – MHVE-2H –	[PB] 0.45 Vp-p – MHVE-2H –	[PB] Burst leve: 0.078 Vp-p – MHVE-2H –	[PB] Upper: VIDEO OUT Lower: TP23	[PB] Upper: VIDEO OUT Lower: TP24

A B C D E F G H

— DC Voltage (1/2) —

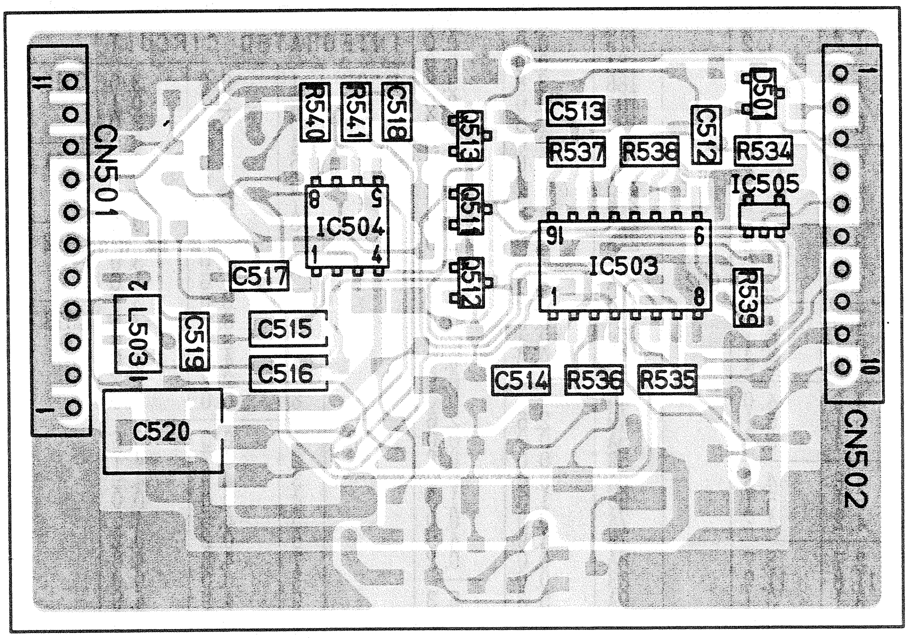
SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC1 6C	1	4.6	4.6
	2	3.1	3.0
	3	5.1	5.1
	4	2.0	2.0
	5	1.7	1.7
	6	2.2	2.2
	7	2.9	2.9
	8	0.0	0.0
	9	3.0	3.0
	10	0.0	0.0
	11	2.6	2.6
	12	3.2	3.2
	13	2.9	2.9
	14	2.3	2.3
IC2 7E	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	2.5	2.3
	12	0.0	0.0
	13	5.1	5.1
	14	1.6	2.0
	15	2.0	2.0
	16	1.9	2.0
	17	4.6	4.6
	18	0.0	0.0
	19	0.0	0.0
	20	2.4	2.4
	21	0.8	0.8
	22	0.6	0.6
	23	0.0	0.0
	24	0.0	0.0
	25	1.4	1.4
	26	4.9	4.9
	27	2.5	2.5
	28	5.1	5.1
	29	4.8	4.8
	30	0.0	0.0
	31	1.3	1.3
	32	3.0	3.0
	33	3.0	3.0
	34	3.0	3.0
	35	0.0	0.0
	36	1.2	1.2
	37	4.8	4.8
	38	0.0	0.0
	39	0.4	0.4
	40	3.6	3.6
	41	0.6	0.6
	42	0.7	0.7
	43	0.0	0.0
	44	0.0	0.0
	45	0.0	0.0
	46	0.0	0.0
	47	0.0	—
	48	0.0	—
	49	0.0	—
	50	0.0	0.0
	51	0.0	0.0
	52	0.0	0.0
	53	5.1	5.1
	54	0.0	0.0
	55	0.0	0.0
	56	5.1	5.1
	57	0.0	0.0
	58	0.0	0.0
	59	0.0	0.0
	60	0.0	0.0
	61	0.0	0.0
	62	0.0	0.0
	63	0.0	0.0
	64	0.0	0.0
	65	0.0	0.0
	66	0.0	0.0
	67	5.1	5.1
	68	0.0	0.0
	69	5.1	5.1
	70	5.1	5.1
	71	0.0	0.0
	72	0.0	0.0
IC2 7E	73	5.1	5.1
	74	5.1	5.1
	75	0.0	0.0
	76	0.0	0.0
	77	0.0	0.0
	78	0.0	0.0
	79	0.0	0.0
	80	0.0	0.0
IC3 3C	1	2.6	2.6
	2	0.0	0.0
	3	1.9	1.9
	4	0.0	0.0
	5	1.3	1.3
	6	1.7	1.5
	7	3.6	0.0
	8	—	2.2
	9	2.4	2.5
	10	0.0	0.0
	11	2.0	2.0
	12	0.0	0.0
	13	5.2	5.2
	14	2.0	2.0
	15	0.0	0.0
	16	2.6	2.6
IC4 3F	1	3.7	3.7
	2	0.0	0.0
	3	3.2	3.2
	4	3.3	0.0
	5	3.7	3.7
	6	11.9	11.9
	7	3.0	3.0
	8	0.0	0.0
IC5 2D	1	6.6	6.6
	2	3.2	0.0
	3	6.6	6.6
	4	0.0	0.0
	5	0.0	0.0
	6	11.8	11.8
	7	5.9	5.9
	8	0.0	0.0
IC6 14C	1	2.3	2.3
	2	—	—
	3	5.1	5.1
	4	3.2	3.2
	5	2.4	2.6
	6	3.1	3.0
	7	3.9	3.9
	8	5.1	5.1
	9	3.1	3.1
	10	3.4	3.4
	11	2.5	2.4
	12	3.2	3.2
	13	3.1	3.1
	14	2.5	2.5
	15	3.2	3.2
	16	3.4	3.4
	17	3.2	3.2
	18	2.6	2.6
	19	0.0	0.0
	20	5.1	5.1
	21	4.3	4.4
	22	3.5	3.4
	23	2.1	2.1
	24	3.7	2.9
	25	1.0	1.0
	26	3.4	3.4
	27	3.4	3.5
	28	4.1	4.1
	29	5.1	5.1
	30	3.0	3.5
	31	5.1	5.1
	32	3.9	3.8
	33	3.3	2.8
	34	0.4	0.4
	35	3.0	3.0
	36	2.9	2.9
	37	0.2	0.2
	38	3.9	0.1
	39	3.4	3.4
	40	0.0	0.0
	41	0.6	5.1
	42	2.6	2.6
	43	2.6	2.6
	44	0.0	0.0
	45	3.2	3.2
IC6 14C	46	3.4	3.4
	47	2.6	2.8
	48	3.6	3.9
IC7 9E	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	2.4	2.4
	12	0.0	0.0
	13	5.1	5.1
	14	1.8	2.3
	15	1.8	2.3
	16	2.0	2.3
	17	5.4	5.1
	18	5.4	5.1
	19	0.3	0.0
	20	0.3	0.0
	21	0.3	0.0
	22	0.8	0.6
	23	0.3	0.0
	24	0.3	0.0
	25	1.5	1.5
	26	4.8	4.8
	27	2.5	2.5
	28	5.1	5.1
	29	4.8	4.8
	30	0.0	0.0
	31	1.2	1.2
	32	3.1	3.1
	33	2.4	2.4
	34	2.4	2.4
	35	0.0	0.0
	36	1.2	1.2
	37	4.8	4.8
	38	0.0	0.0
	39	0.7	0.7
	40	3.3	3.3
	41	1.4	1.4
	42	1.5	1.5
	43	0.0	0.0
	44	1.4	0.0
	45	—	0.0
	46	1.2	0.0
	47	1.4	0.0
	48	1.4	0.0
	49	0.0	0.0
	50	0.0	0.0
	51	0.0	0.0
	52	0.0	0.0
	53	5.1	5.1
	54	0.0	0.0
	55	0.0	0.0
	56	5.1	5.1
	57	0.0	0.0
	58	2.2	0.0
	59	1.1	0.0
	60	1.2	0.0
	61	1.1	0.0
	62	0.0	0.0
	63	0.0	0.0
	64	0.0	0.0
	65	1.8	0.0
	66	1.8	0.0
	67	5.1	5.1
	68	0.0	0.0
	69	5.1	5.1
	70	5.1	5.1
	71	0.0	0.0
	72	0.0	0.0
	73	5.1	5.1
	74	5.1	5.1
	75	0.0	0.0
	76	0.0	0.0
	77	0.0	0.0
	78	0.0	0.0
	79	0.0	0.0
	80	0.0	0.0
IC8 11F	1	1.8	1.8
	2	0.0	0.0
	3	2.6	2.6
	4	2.6	2.6
IC8 11F	5	2.6	2.6
	6	2.1	2.1
	7	1.6	1.6
	8	0.0	0.0
	9	1.8	1.8
	10	3.2	3.2
	11	3.2	3.2
	12	0.0	0.0
	13	2.8	2.8
	14	2.5	2.5
	15	3.2	3.2
	16	5.1	5.1
IC9 9B	1	2.0	2.0
	2	2.5	2.5
	3	0.0	0.0
	4	2.2	2.2
	5	0.0	0.0
	6	0.0	0.0
	7	3.8	3.8
	8	2.3	2.3
	9	4.9	4.9
	10	2.2	2.2
	11	2.2	2.2
	12	4.9	4.9
	13	0.8	0.8
	14	0.0	0.0
IC10 11B	1	2.1	2.1
	2	4.9	4.9
	3	1.9	1.9
	4	0.0	0.0
	5	2.3	2.5
	6	2.4	2.5
	7	4.9	4.9
	8	0.8	0.8
IC11 14F	1	2.8	2.8
	2	2.5	2.5
	3	3.0	3.0
	4	2.3	2.3
	5	2.8	3.1
	6	3.2	3.1
	7	2.6	2.6
	8	1.8	1.8
	9	2.5	2.5
	10	3.0	3.0
	11	1.8	1.8
	12	2.7	2.7
	13	2.1	2.1
	14	3.0	2.9
	15	2.0	2.0
	16	3.0	3.0
	17	2.0	2.0
	18	2.8	2.8
	19	0.0	0.0
	20	5.1	5.1
	21	2.9	2.9
	22	1.8	1.8
	23	2.6	2.6
	24	1.4	1.4
	25	2.5	2.5
	26	1.6	1.6
	27	5.1	5.1
	28	1.4	0.0
	29	—	0.0
	30	2.4	2.2
	31	2.3	0.0
	32	2.9	2.9
	33	0.2	0.2
	34	2.9	2.9
	35	2.8	2.8
	36	2.8	2.8
	37	2.8	2.8
	38	2.4	2.4
	39	3.6	3.6
	40	0.0	0.0
	41	2.2	2.2
	42	2.4	2.4
	43	3.6	3.6
	44	0.0	0.0
	45	3.2	3.2
	46	3.2	3.2
	47	3.2	3.2
	48	3.2	3.2
IC12 12C	1	5.3	5.3
	2	2.2	—
	3	5.2	5.2
	4	0.0	0.0
	5	0.0	0.0
	6	2.8	—
	7	0.0	0.0
	8	5.3	5.3
IC13 8A	1	5.0	0.0
	2	0.0	0.0
	3	5.3	5.3
	4	0.0	0.0
	5	0.0	0.0
	6	—	—
	7	0.0	5.3
	8	5.3	5.3
IC14 9A	1	0.1	5.3
	2	0.1	0.1
	3	0.0	0.0
	4	0.0	0.0
	5	5.3	5.3
IC15 7B	1	12.0	12.0
	2	0.0	0.0
	3	5.1	5.1
IC16 7F	1	12.0	12.0
	2	0.0	0.0
	3	5.1	5.1
IC17 10D	1	12.0	12.0
	2	0.0	0.0
	3	5.1	5.1
TRANSISTOR			
Q1 6B	B	2.3	2.3
	C	5.1	5.1
	E	1.8	1.8
Q2 5C	B	2.3	2.3
	C	5.1	5.1
	E	1.7	1.7
Q3 5B	B	4.6	4.6
	C	5.1	5.1
	E	4.2	4.2
Q4 6C	B	3.9	3.9
	C	5.1	5.1
	E	3.3	3.2
Q5 5D; R120	B	3.2	3.2
	C	0.0	0.0
	E	3.8	3.8
Q6 5C	B	0.7	0.7
	C	5.1	5.1
	E	3.6	3.6
Q7 5D;Q6, Q8	B	3.6	3.6
	C	0.7	0.7
	E	0.0	0.0
Q8 5D	B	0.7	0.7
	C	4.6	4.6
	E	0.0	0.0
Q9 4C	B	8.9	8.9
	C	11.9	11.9
	E	8.3	8.3
Q10 4C	B	8.3	8.3
	C	0.0	0.0
	E	8.9	8.9
Q11 4D;Q8, Q13	B	6.1	6.1
	C	12.0	12.0
	E	5.7	5.7
Q12 6D	B	6.1	6.1
	C	12.0	12.0
	E	5.5	5.5
Q13 4D	B	2.7	2.8
	C	11.0	11.0
	E	2.2	2.3
Q14 4D;Q15	B	11.0	11.0
	C	4.2	4.2
	E	11.6	11.6
Q15 3D	B	4.2	4.2
	C	12.0	12.0
	E	3.6	3.7
Q16 5E	B	3.9	3.9
	C	12.0	12.0
	E	3.3	3.3
Q17 4E	B	4.2	4.2
	C	11.0	11.0
	E	3.7	3.7
Q18 4E	B	11.0	11.0
	C	5.8	5.8
	E	11.6	11.7
Q19 4E	B	4.2	4.2
	C	12.0	12.0
	E	3.6	3.6
Q20 4D;Q11	B	5.8	5.8
	C	12.0	12.0
	E	5.2	5.2
Q21 5F	B	3.8	3.9
	C	11.9	11.9
	E	3.3	3.3
Q22 4F	B	2.4	2.4
	C	11.1	11.1
	E	1.9	1.8
Q23 4F	B	11.1	11.1
	C	3.3	3.3
	E	11.7	11.7
Q24 4F;Q22 ,Q23	B	3.3	3.3
	C	11.9	11.9
	E	2.9	2.7
Q25 4F	B	3.3	3.3
	C	11.9	11.9
	E	2.9	2.7
Q26 3B	B	1.3	1.3
	C	0.0	0.0
	E	2.0	2.0
Q27 3B	B	1.9	1.9
	C	5.2	5.2
	E	1.3	1.3
Q29 3D	B	1.5	1.5
	C	0.0	0.0
	E	2.1	2.2
Q30 3G	B	5.3	5.3
	C	0.0	0.0
	E	0.0	0.0
Q31 2G	B	3.0	3.0
	C	11.9	11.9
	E	2.4	2.4
Q32 2F	B	3.7	3.8
	C	11.0	11.0
	E	3.2	3.2
Q33 1F	B	11.0	11.0
	C	6.1	6.1
	E	11.6	11.6
Q34 1E	B	4.6	4.6
	C	11.9	11.9
	E	4.0	4.0
Q35 2E	B	4.7	4.7
	C	7.4	7.5
	E	4.1	4.1
Q36 2E	B	7.5	7.4
	C	11.9	11.9
	E	6.9	6.9
Q37 2E	B	6.9	6.9
	C	9.0	9.0
	E	6.2	6.2
Q38 1E	B	1.7	1.7
	C	6.2	6.2
	E	1.1	1.1
Q39 1D; R238	B	3.3	3.3
	C	9.1	9.1
	E	2.7	2.7
Q40 2D; R124	B	9.1	9.1
	C	6.2	6.2
	E	9.8	9.8
Q41 2C;Q40	B	6.2	6.2
	C	11.8	11.8
	E	5.6	5.7
Q42 2C; R248	B	6.2	6.2
	C	11.9	11.9
	E	5.6	5.6
Q43 2C; R247	B	3.3	3.3
	C	11.9	11.9
	E	2.7	2.7
Q44 2C; R251	B	1.8	1.8
	C	11.1	11.2
	E	1.2	1.2
Q45 2B; R253	B	11.1	11.2
	C	4.4	4.5
	E	11.7	11.8
Q46 1B	B	4.6	4.6
	C	11.9	11.9
	E	4.0	4.0
Q47 2B	B	4.7	4.8
	C	7.5	7.5
	E	4.2	4.2
Q48 1B	B	7.4	7.4
	C	11.9	11.9
	E	7.1	7.1
Q49 1A	B	7.1	7.1
	C	9.8	9.8
	E	6.2	6.2
Q50 2A	B	1.5	1.5
	C	6.2	6.2
	E	0.8	0.8
Q52 12C	B	2.6	2.8
	C	3.4	3.3
	E	2.0	1.9
Q53 13B	B	2.2	2.2
	C	5.1	5.1
	E	1.7	1.6
Q54 13C	B	2.2	2.2
	C	5.1	5.1
	E	1.7	1.6
Q55 14B; R291	B	2.4	2.6
	C	5.1	5.1
	E	1.8	1.9
Q58 15D; Q59	B	1.8	1.3
	C	2.4	2.4
	E	2.4	2.4
Q59 16D	B	1.7	1.6
	C	2.4	2.4
	E	2.4	2.4
Q60 15D; Q61	B	2.6	—
	C	1.3	1.6
	E	0.0	0.0
Q61 16D	B	1.7	1.7
	C	0.0	0.0
	E	2.4	2.4
Q62 15D	B	0.0	5.3
	C	0.9	0.0
	E	0.0	0.0
Q63 16E	B	5.2	5.2
	C	0.1	0.1
	E	0.0	0.0
Q64 15E	B	0.0	0.0
	C	0.1	0.1
	E	0.0	0.0
Q65 14D	B	2.4	2.4
	C	5.1	5.1
	E	2.0	2.0
Q67 16C	B	0.7	0.7
	C	0.1	0.1
	E	0.0	0.0
Q68 9D	B	3.2	3.2
	C	7.9	7.9
	E	2.7	2.7
Q69 9D	B	7.9	7.9
	C	11.8	11.8
	E	7.4	7.4
Q70 8C	B	3.9	3.9
	C	11.8	11.8
	E	3.3	3.3
Q71 7D	B	4.2	4.1
	C	11.8	11.8
	E	3.6	3.6
Q72 7C	B	1.2	1.2
	C	0.0	0.0
	E	1.8	1.8
Q73 7C	B	4.2	4.2
	C	11.8	11.9
	E	3.6	3.7
Q74 7B	B	3.6	3.6
	C	7.3	7.2
	E	3.0	3.0
Q75 7B	B	8.2	8.2
	C	11.8	11.9
	E	7.6	7.6
Q76 8B	B	3.6	3.6
	C	11.8	11.9
	E	3.0	3.0
Q77 12F; Q78	B	1.4	1.4
	C	4.2	4.2
	E	0.8	0.8
Q78 12E	B	4.2	4.2
	C	5.1	5.1
	E	3.6	3.6
Q79 9B	B	2.1	2.1
	C	5.2	5.2
	E	1.5	1.5
Q80 10C	B	3.8	3.8
	C	4.9	4.9
	E	3.2	3.2
Q81 9B	B	2.3	2.3
	C	0.0	0.0
	E	2.8	2.8
Q82 11C	B	1.9	1.9
	C	0.0	0.0
	E	2.6	2.6
Q83 11D	B	4.0	4.0
	C	5.2	5.2
	E	3.3	3.3

— DC Voltage (2/2) —

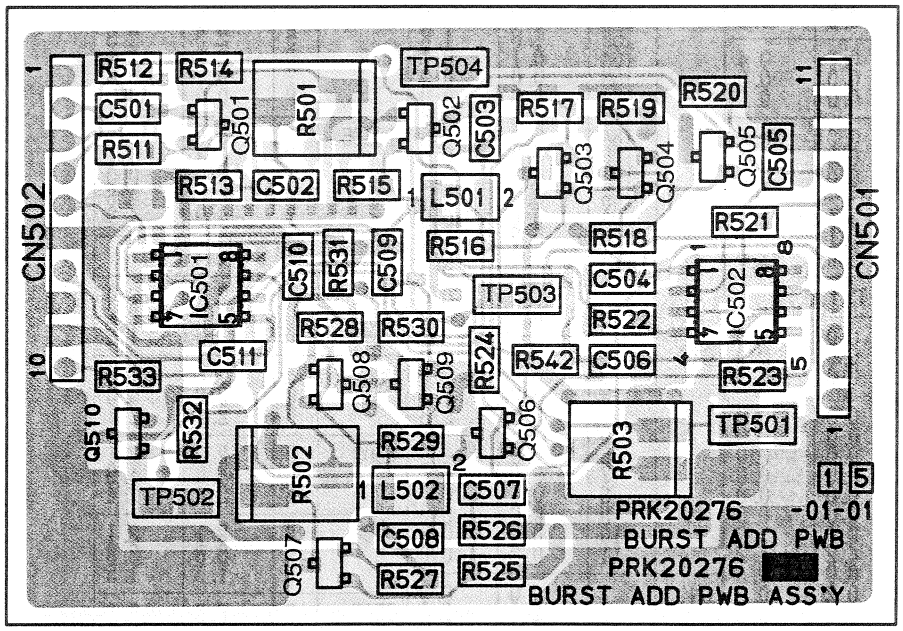
SYMBOL	No.	REC	PB
Q84 11D	B	1.8	1.8
	C	3.4	3.4
	E	1.2	1.2
Q86 15F	B	1.5	2.0
	C	2.8	2.7
	E	0.0	0.0
Q87 13D	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q88 12E; C274	B	3.5	3.5
	C	4.0	4.0
	E	2.9	2.9
Q89 12D	B	4.0	4.0
	C	5.1	5.1
	E	3.4	3.4
Q90 12D; Q89	B	4.0	4.0
	C	5.1	5.1
	E	3.4	3.4
Q91 12B	B	4.8	4.8
	C	5.1	5.1
	E	4.2	4.2
Q92 7C; R449	B	3.7	3.7
	C	11.8	11.9
	E	3.1	3.1
Q93 8B	B	4.2	4.2
	C	11.8	11.9
	E	3.6	3.6
Q94 11D	B	1.8	1.8
	C	4.0	4.0
	E	1.2	1.3
Q95 15E	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q96 11E	B	0.4	0.4
	C	0.0	0.0
	E	0.0	0.0
Q97 13D	B	0.0	0.0
	C	0.6	—
	E	0.0	0.0
Q98 15E	B	2.4	2.4
	C	5.1	5.1
	E	2.0	2.0
CONNECTOR			
CN1	1A	0.0	0.0
	1B	0.0	0.0
	2A	0.0	0.0
	2B	—	—
	3A	0.0	0.0
	3B	0.0	0.0
	4A	0.0	0.0
	4B	0.0	0.0
	5A	0.0	0.0
	5B	0.0	0.0
	6A	0.0	0.0
	6B	4.2	4.2
	7A	0.0	0.0
	7B	0.2	0.2
	8A	0.0	0.0
	8B	0.4	0.4
	9A	0.0	0.0
	9B	—	—
	10A	5.3	5.3
	10B	5.2	5.2
	11A	0.0	0.0
	11B	0.0	0.0
	12A	5.0	0.0
	12B	0.0	0.0
	13A	5.0	0.0
	13B	4.1	4.1
	14A	0.0	0.0
	14B	3.4	3.4
	15A	0.0	0.0
	15B	0.0	0.0
	16A	0.0	0.0
CN1	16B	0.0	0.0
	17A	0.0	0.0
	17B	0.0	0.0
	18A	0.0	0.0
	18B	3.8	3.8
	19A	0.0	0.0
	19B	1.3	1.3
	20A	0.0	0.0
	20B	2.0	2.0
	21A	0.0	0.0
	21B	1.3	1.3
	22A	0.0	0.0
	22B	2.0	2.0
CN2	1A	0.0	0.0
	1B	0.0	0.2
	2A	0.0	0.0
	2B	2.4	2.4
	3A	0.0	0.0
	3B	7.0	6.9
	4A	—	0.0
	4B	2.6	2.6
	5A	0.0	0.0
	5B	0.0	0.2
	6A	0.0	0.0
	6B	1.3	1.3
	7A	0.0	0.0
	7B	4.9	4.9
	8A	0.0	0.2
	8B	0.0	—
	9A	5.3	5.3
	9A	5.3	5.3
	10A	12.0	12.0
	10B	12.0	12.0
	11A	0.0	0.0
	11B	0.0	0.0
	12A	0.0	0.0
	12B	4.7	4.7
	13A	0.0	0.0
	13B	2.9	2.7
	14A	0.0	0.0
	14B	5.2	5.2
	15A	0.0	0.0
	15B	1.8	1.8
	16A	0.1	0.1
	16B	0.0	0.0
	17A	0.0	0.0
	17B	3.8	3.8
	18A	5.3	5.3
	18B	0.0	0.0
	19A	5.3	5.3
	19B	3.9	0.1
	20A	0.0	0.0
	20B	5.3	5.3
	21A	0.0	0.0
	21B	2.0	2.0
	22A	0.0	0.0
	22B	0.0	0.0
CN3	1	0.0	0.0
	2	0.0	0.0
	3	5.3	5.3
	4	5.3	5.3
	5	2.6	—
	6	4.9	4.9
	7	3.9	0.1
	8	0.1	0.1
	9	0.0	0.0
	10	0.0	0.0
	11	0.0	0.0
CN4	1	0.0	0.0
	2	2.0	2.0
	3	0.0	0.0
	4	0.0	0.0
	5	0.4	0.4
	6	0.0	0.0
	7	3.4	3.4
	8	0.0	0.0
	9	0.0	0.0
	10	1.7	1.7
BURST ADD BOARD			
INTEGRATED CIRCUIT			
IC501	1	3.0	3.0
	2	2.7	0.1
	3	3.0	3.0
	4	0.0	0.0
	5	3.0	3.0
	6	4.9	4.9
	7	2.6	2.7
	8	0.0	0.0
IC502	1	3.0	3.0
	2	1.6	1.6
	3	3.0	3.0
	4	3.4	3.5
	5	3.0	3.0
	6	4.9	4.9
	7	2.2	2.2
	8	0.0	0.0
IC503	1	0.0	0.0
	2	4.7	4.7
	3	4.9	4.9
	4	0.0	0.0
	5	4.5	4.5
	6	0.2	0.2
	7	4.8	4.8
	8	0.0	0.0
	9	4.9	4.9
	10	0.0	0.0
	11	4.9	4.9
	12	4.1	4.0
	13	0.2	0.2
	14	4.9	4.9
	15	0.0	0.0
	16	4.9	4.9
IC504	1	3.2	3.2
	2	3.8	3.8
	3	0.5	0.5
	4	4.9	4.9
	5	2.3	2.3
	6	2.3	2.3
	7	0.0	0.0
	8	0.0	0.0
IC505	1	0.0	0.0
	2	0.4	0.4
	3	0.0	0.0
	4	4.6	4.6
	5	4.9	4.9
TRANSISTOR			
Q501	B	2.4	2.4
	C	3.2	3.2
	E	1.8	1.8
Q502	B	1.8	1.8
	C	0.0	0.0
	E	2.1	2.1
Q503	B	2.1	2.1
	C	4.9	4.9
	E	2.4	2.4
Q504	B	2.1	2.1
	C	3.8	3.8
	E	1.5	1.5
Q505	B	3.8	3.8
	C	4.9	4.9
	E	3.6	3.5
Q506	B	2.3	2.3
	C	4.9	4.9
	E	2.1	2.1
Q507	B	1.6	1.5
	C	4.0	4.0
	E	1.3	1.3
Q508	B	4.8	4.8
	C	4.9	4.9
	E	4.1	4.1
Q509	B	4.1	4.1
	C	4.9	4.9
	E	3.5	3.5
Q510	B	2.2	2.2
	C	4.9	4.9
	E	1.7	1.7
Q511	B	4.5	4.5
	C	0.2	0.2
	E	0.0	0.0
Q512	B	0.2	0.2
	C	0.2	0.2
	E	0.0	0.0
Q513	B	0.1	0.1
	C	0.2	0.2
	E	0.0	0.0

4.23 BURST ADD CIRCUIT BOARD

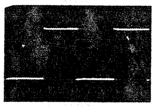
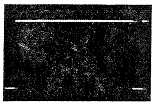
— SOLDER Side —


CN501
R540
R541
C518
Q513
C513
C512
D501
R537
R538
R534
IC505
IC504
Q511
IC503
Q512
C517
L503
C519
C515
C516
C520
R539
C514
R536
R535
CN502

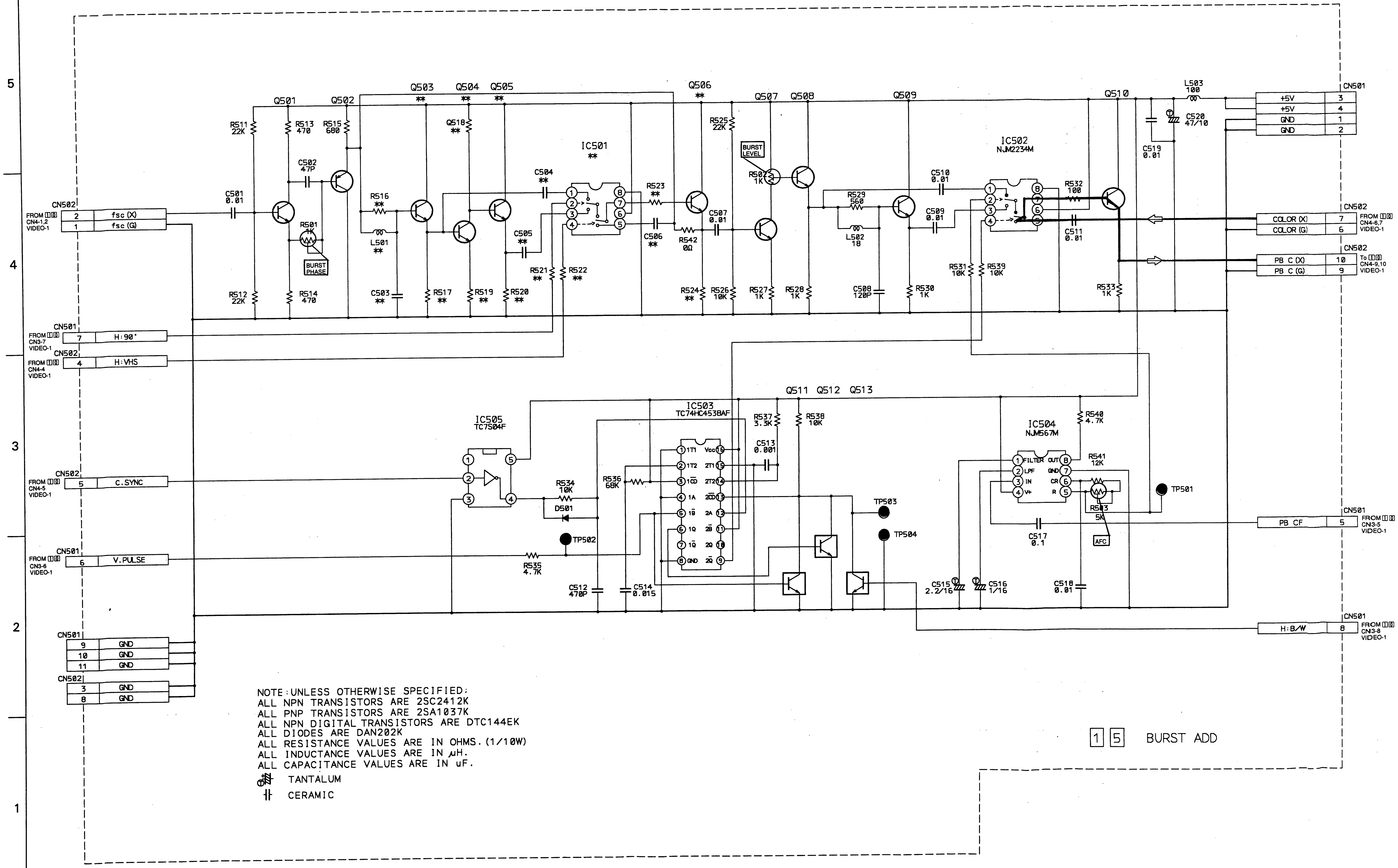
— PARTS Side —


R512
R514
TP504
C501
Q501
R501
Q502
C503
R517
R519
R520
R511
Q503
Q504
Q505
C505
R513
C502
R515
L501
CN502
CN501
R521
R518
C510
R531
C509
R516
IC501
TP503
C504
IC502
R528
R530
R522
R524
R542
C506
C511
Q508
Q509
R523
R533
Q506
TP501
Q510
R532
R529
R503
R502
L502
C507
TP502
C508
R526
Q507
R527
R525
PRK20276 -01-01
BURST ADD PWB
PRK20276
BURST ADD PWB ASS'Y

— MAIN WAVEFORMS OF BURST ADD CIRCUIT —

TP501	TP502	TP5-3
		
[REC] 3.6 Vp-p/7.8 kHz – S-VHS –	[REC] 4.8 Vp-p/50 Hz – S-VHS –	[REC] 4.9 Vp-p/50 MHz – S-VHS –

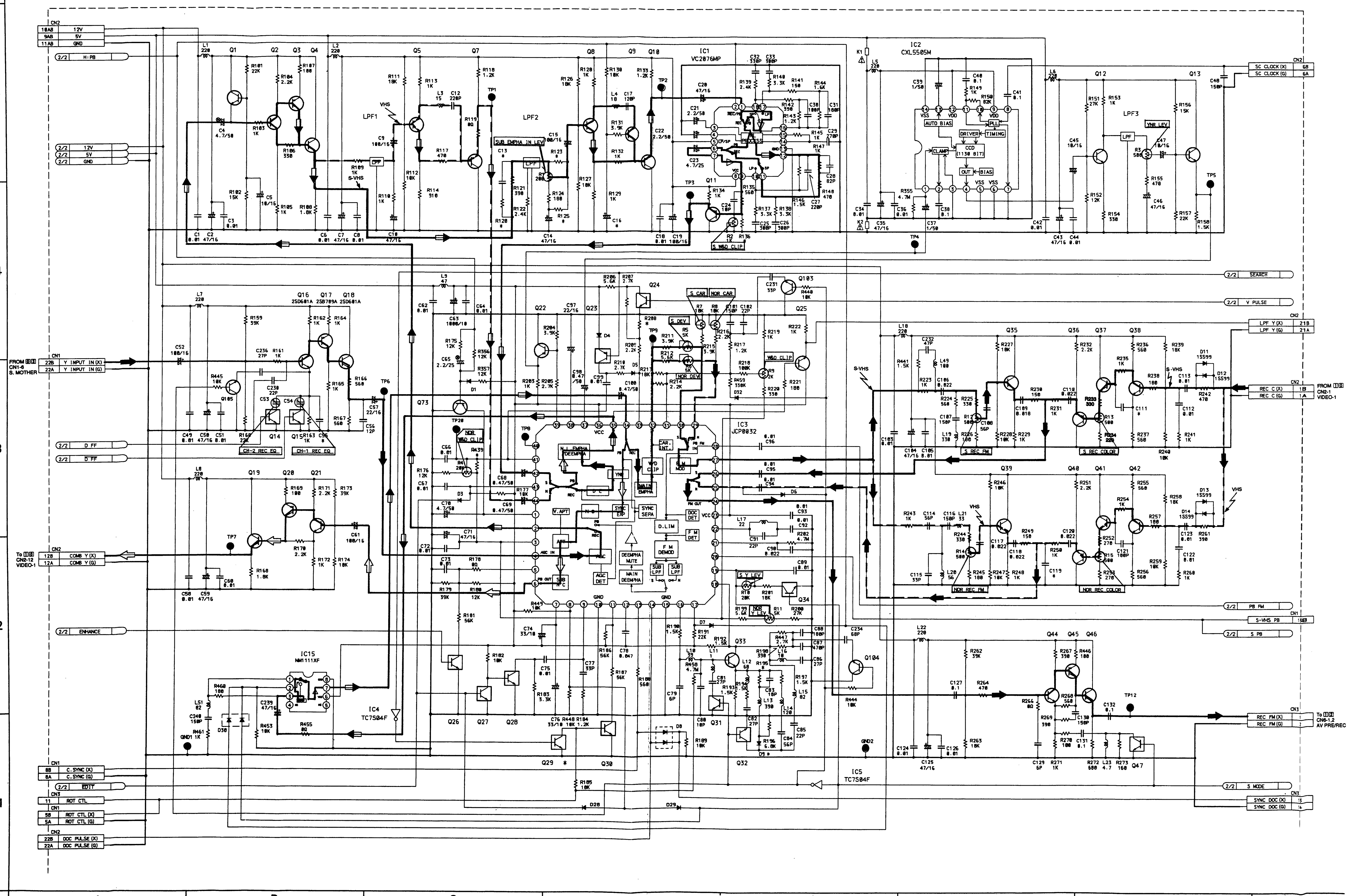
4.24 BURST ADD SCHEMATIC DIAGRAM


Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
Q509
Q510
Q518 **
R511 22K
R512 22K
R513 470
R514 470
R515 680
R516 **
R517 **
R519 **
R520 **
R521 **
R522 **
R523 **
R524 **
R525 22K
R526 10K
R527 1K
R528 1K
R529 560
R530 1K
R531 10K
R532 100
R533 1K
R539 10K
R542 0Ω
R501 1K
BURST PHASE
R502 1K
BURST LEVEL
C501 0.01
C502 47P
C503 **
C504 **
C505 **
C506 **
C507 0.01
C508 120P
C509 0.01
C510 0.01
C511 0.01
C519 0.01
C520 47/10
L501 **
L502 18
L503 100
IC501 **
IC502 NJM2234M
CN502 2 fsc (X)
CN502 1 fsc (G)
FROM CN4-1,2 VIDEO-1
CN501 7 H:90°
FROM CN3-7 VIDEO-1
CN502 4 H:VHS
FROM CN4-4 VIDEO-1
CN502 5 C.SYNC
FROM CN4-5 VIDEO-1
CN501 6 V.PULSE
FROM CN3-6 VIDEO-1
CN501 9 GND
10 GND
11 GND
CN502 3 GND
8 GND
CN501 +5V 3
+5V 4
GND 1
GND 2
CN502 COLOR (X) 7
COLOR (G) 6
FROM CN4-6,7 VIDEO-1
CN502 PB C (X) 10
PB C (G) 9
To CN4-9,10 VIDEO-1
CN501 PB CF 5
FROM CN3-5 VIDEO-1
CN501 H:B/W 8
FROM CN3-8 VIDEO-1
IC505 TC7S04F
R534 10K
D501
TP502
R535 4.7K
C512 470P
C514 0.015
R536 68K
IC503 TC74HC4538AF
1T1 Vcc
1T2 2T1
1CD 2T2
1A 2CD
1B 2A
1Q 2B
1Q 2Q
GND 2Q
Q511 Q512 Q513
R537 3.3K
R538 10K
C513 0.001
TP503
TP504
IC504 NJM567M
FILTER OUT
LPF GND
IN CR
V+ R
R540 4.7K
R541 12K
R503 5K
AFC
C515 2.2/16
C516 1/16
C517 0.1
C518 0.01
TP501

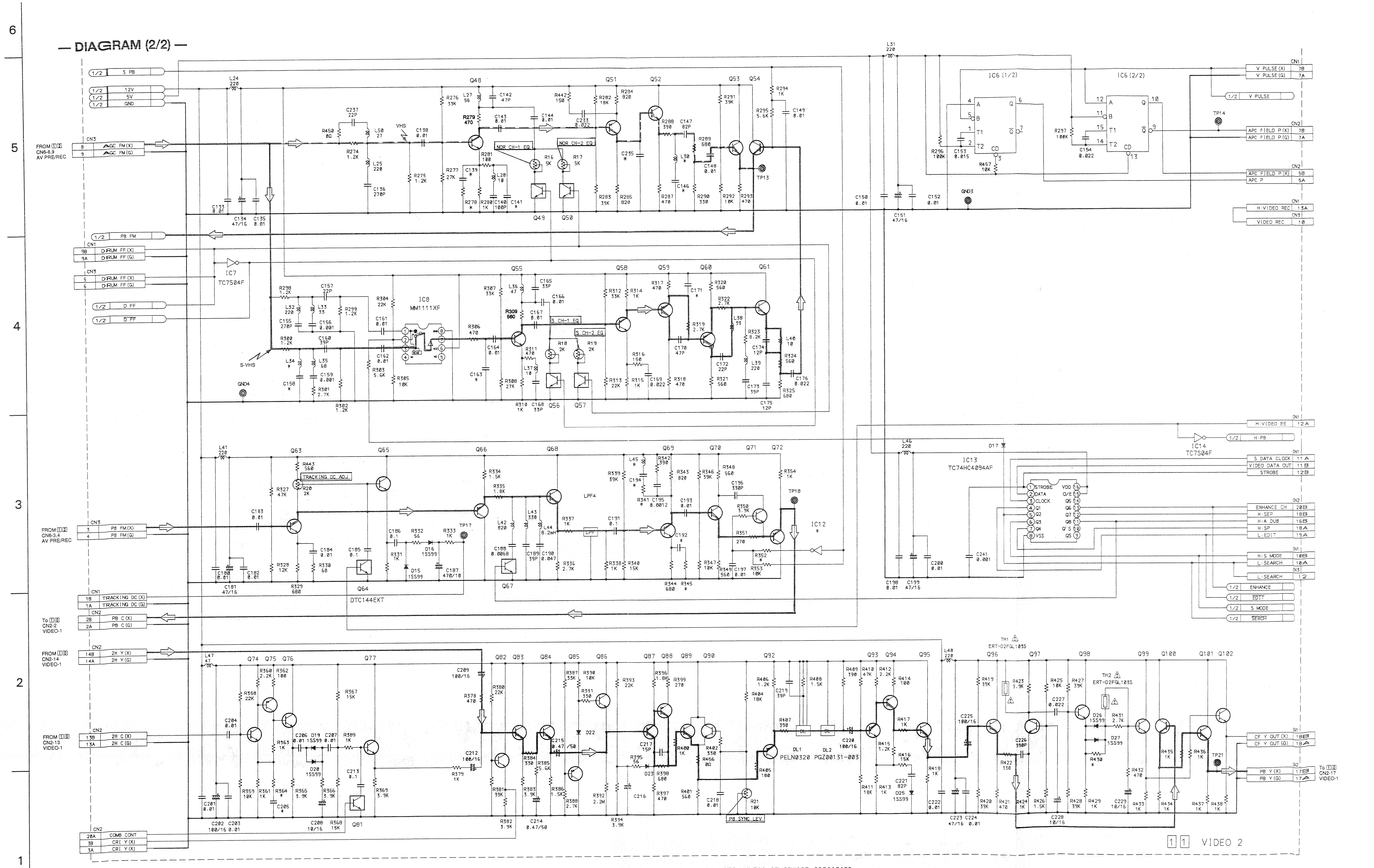
NOTE: UNLESS OTHERWISE SPECIFIED;
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL NPN DIGITAL TRANSISTORS ARE DTC144EK
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN uF.
TANTALUM
CERAMIC

1 5 BURST ADD

4.25 VIDEO-2 SCHEMATIC DIAGRAM
— DIAGRAM (1/2) —


CN2
10AB 12V
9AB 5V
11AB GND
2/2 H-PB
2/2 12V
2/2 5V
2/2 GND
LPF1
LPF2
LPF3
VHS
S-VHS
SUB EMPHA IN LEV
IC1
VC2076MP
PROCESS
IC2
CXL5505M
AUTO BIAS
DRIVER
TIMING
PLL
CLAMP
CCD (1130 BIT)
OUT
BIAS
VSS
VDD
SC CLOCK (X) 6B
SC CLOCK (G) 6A
2/2 SEARCH
2/2 V PULSE
LPF Y (X) 21B
LPF Y (G) 21A
REC C (X) 1B
REC C (G) 1A
FROM CN2-1 VIDEO-1
FROM CN1-6 S. MOTHER
Y INPUT IN (X)
Y INPUT IN (G)
CH-2 REC EQ
CH-1 REC EQ
2/2 D FF
2/2 D FF
To CN2-12 VIDEO-1
COMB Y (X)
COMB Y (G)
2/2 ENHANCE
IC15
NJM1111XF
IC4
TC7S04F
IC3
JCP8032
S CAR
NOR CAR
S DEV
NOR DEV
W&D CLIP
NOR W&D CLIP
S W&D CLIP
N.L EMPHA
DEEMPHA
MAIN EMPHA
CAR. INT.
W/D CLIP
SYNC EXP
SYNC SEPA
V.APT
D.LIM
F M DEMOD
DOC DET
F M DET
AGC DET
DEEMPHA MUTE
MAIN DEEMPHA
SUB LPF
AGC
S Y LEV
NOR Y LEV
S REC FM
S REC COLOR
NOR REC FM
NOR REC COLOR
2/2 PB FM
S-VHS PB 13B
2/2 S PB
REC FM (X)
REC FM (G)
To CN6-1,2 AV PRE/REC
IC5
TC7S04F
2/2 S MODE
SYNC DOC (X) 13
SYNC DOC (G) 14
C.SYNC (X)
C.SYNC (G)
2/2 EDIT
ROT CTL
ROT CTL (X)
ROT CTL (G)
DOC PULSE (X)
DOC PULSE (G)
GND1
GND2
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP12
TP20
6
5
4
3
2
1
A
B
C
D
E
F
G
H

— DIAGRAM (2/2) —

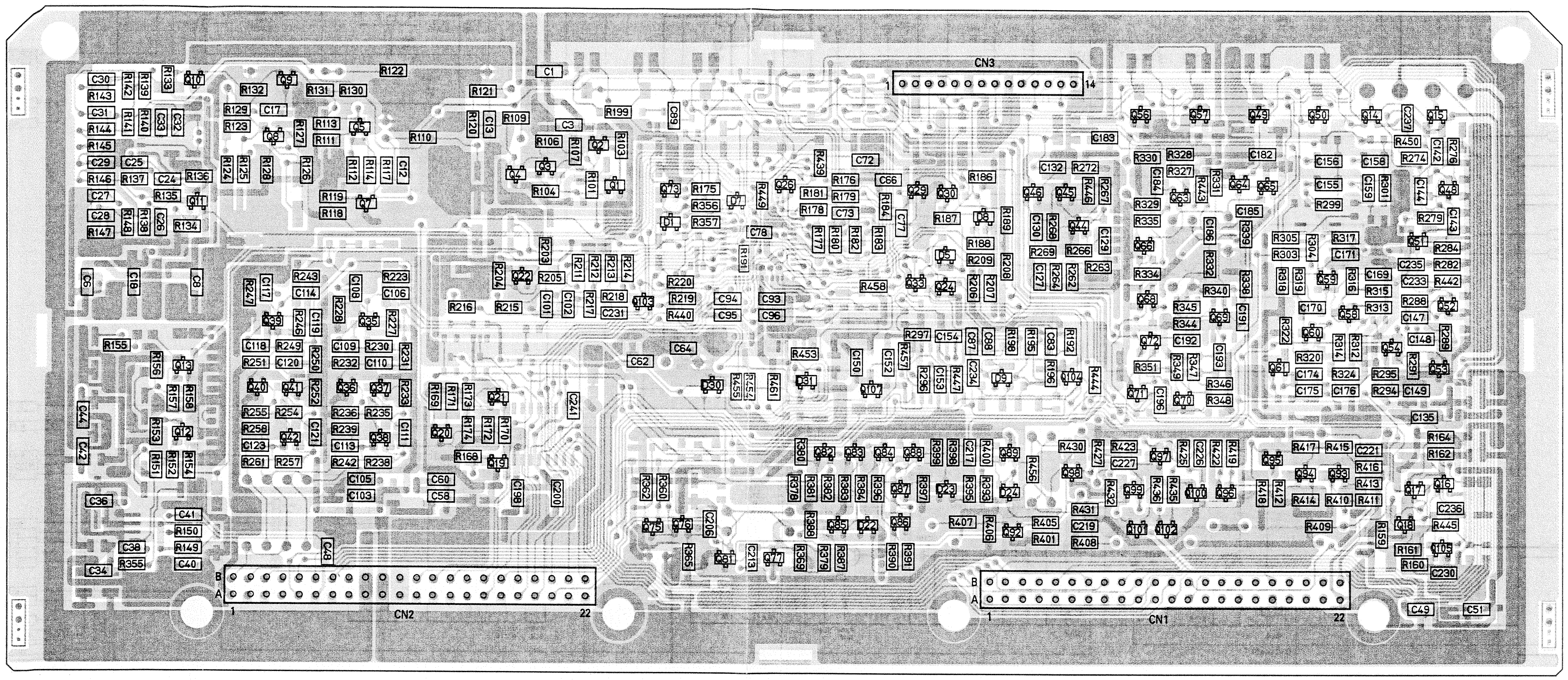

6
5
4
3
2
1
1/2 S PB
1/2 12V
1/2 5V
1/2 GND
FROM 1 2 CN6-8,9 AV PRE/REC
CN3
AGC FM (X)
AGC FM (G)
1/2 PB FM
CN1
DRUM FF (X)
DRUM FF (G)
1/2 D FF
IC7 TC7S04F
IC8 MM1111XF
S-VHS
VHS
GND4
Q48
Q49
Q50
Q51
Q52
Q53
Q54
NOR CH-1 EQ
NOR CH-2 EQ
TP13
Q55
Q56
Q57
Q58
Q59
Q60
Q61
S CH-1 EQ
S CH-2 EQ
FROM 1 2 CN6-3,4 AV PRE/REC
PB FM (X)
PB FM (G)
Q63
Q64 DTC144EKT
Q65
Q66
Q67
Q68
Q69
Q70
Q71
Q72
TRACKING DC ADJ.
TP17
LPF4
TP18
IC12
TRACKING DC (X)
TRACKING DC (G)
To 1 1 CN2-2 VIDEO-1
PB C (X)
PB C (G)
FROM 1 1 CN2-14 VIDEO-1
2H Y (X)
2H Y (G)
FROM 1 1 CN2-13 VIDEO-1
2H C (X)
2H C (G)
COMB CONT
CRI Y (X)
CRI Y (X)
Q74
Q75
Q76
Q77
Q81
Q82
Q83
Q84
Q85
Q86
Q87
Q88
Q89
Q90
Q92
Q93
Q94
Q95
Q96
Q97
Q98
Q99
Q100
Q101
Q102
DL1 PELN0320
DL2 PGZ00131-003
PB SYNC LEV
TH1 ERT-D2FGL103S
TH2 ERT-D2FGL103S
TP21
CF Y OUT (X)
CF Y OUT (G)
PB Y (X)
PB Y (G)
To 1 1 CN2-17 VIDEO-1
L31 220
IC6 (1/2)
IC6 (2/2)
V PULSE (X)
V PULSE (G)
1/2 V PULSE
TP14
APC FIELD P (X)
APC FIELD P (G)
APC FIELD P (X)
APC P
GND3
H:VIDEO REC
VIDEO REC
H:VIDEO EE
1/2 H:PB
IC14 TC7S04F
IC13 TC74HC4094AF
D17
S DATA CLOCK
VIDEO DATA OUT
STROBE
ENHANCE CH
H:SEP
H:A DUB
H:SP
L:EDIT
H:S MODE
L:SEARCH
L:SEARCH
1/2 ENHANCE
1/2 EDIT
1/2 S MODE
1/2 SERCH
1 1 VIDEO 2

NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
CERAMIC

A B C D E F G H

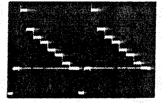
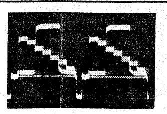
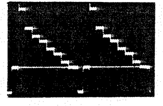
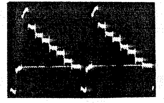
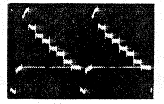
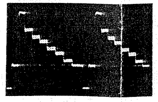
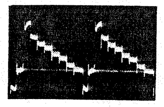
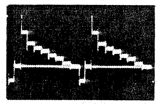
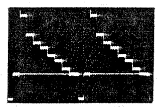
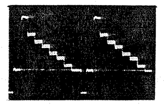
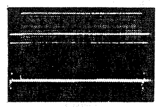
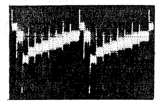
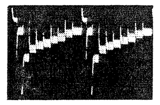
4.26 VIDEO-2 CIRCUIT BOARD

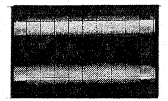
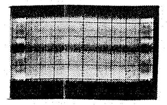
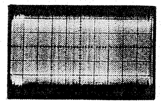
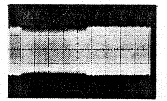
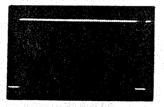
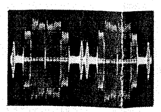
— SOLDER Side —



(PRK20263-01-02)

— MAIN WAVEFORMS OF VIDEO-2 CIRCUIT —

TP1		TP2		TP3		TP4, TP5		TP6	TP7	TP8	TP9	
 [REC] 0.6 Vp-p – VHS –	 [PB] 0.5 Vp-p – MHVE-2 –	 [REC] 0.4 Vp-p – S-VHS –	 [PB] 0.35 Vp-p – MHVE-2H –	 [REC] 0.6 Vp-p – S-VHS –	 [PB] 0.5 Vp-p – MHVE-2H –	 [REC] 0.45 Vp-p – S-VHS –	 [REC] 0.5 Vp-p – VHS –	 [REC] 0.48 Vp-p – S-VHS –	 [PB] 1.5 Vp-p – MHVE-2H –	 [REC] Upper: VIDEO OUT Lower: TP8	 [REC] 0.99 Vp-p – S-VHS –	 [REC] 0.8 Vp-p – VHS –

TP12		TP13		TP14	TP18
 [REC] 0.5 Vp-p – S-VHS –	 [REC] 0.5 Vp-p – VHS –	 [PB] 0.27 Vp-p – MHVE-2H –	 [PB] 0.35 Vp-p – MHVE-2 –	 [REC] 5.3 Vp-p/50 Hz – S-VHS –	 [PB] Burst level: 0.05 Vp-p – S-VHS –

— DC Voltage (1/2) —

SYMBOL No.		REC	PB
INTEGRATED CIRCUIT			
IC1 15F	1	2.0	2.0
	2	0.1	5.2
	3	3.4	3.4
	4	3.4	3.4
	5	5.0	5.0
	6	2.2	2.2
	7	2.0	2.0
	8	5.0	5.0
	9	1.5	1.5
	10	2.9	2.8
	11	2.9	2.8
	12	2.9	2.8
	13	0.0	0.0
	14	2.8	2.9
	15	2.8	2.9
	16	2.0	2.0
	17	2.0	2.0
	18	2.0	2.0
IC2 15B	1	2.0	2.0
	2	2.6	2.6
	3	0.0	0.0
	4	2.0	2.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	2.4	2.4
	9	5.1	5.1
	10	2.4	2.3
	11	2.3	2.3
	12	5.1	5.1
	13	0.9	0.9
	14	0.0	0.0
IC3 9E	1	2.5	2.4
	2	2.5	2.2
	3	3.0	3.0
	4	2.3	2.3
	5	3.1	3.1
	6	2.7	2.7
	7	3.2	3.0
	8	2.5	2.5
	9	3.9	2.3
	10	0.0	0.0
	11	—	—
	12	3.2	3.1
	13	0.4	0.2
	14	0.1	0.1
	15	0.0	0.0
	16	—	2.4
	17	0.6	4.9
	18	5.0	3.7
	19	2.0	2.0
	20	4.1	4.0
	21	0.0	0.1
	22	3.4	3.2
	23	5.0	5.0
	24	2.6	—
	25	0.6	0.0
	26	3.3	0.0
	27	3.3	1.0
	28	3.8	3.7
	29	1.5	0.1
	30	2.6	0.1
	31	2.5	0.3
	32	2.5	0.2
	33	4.8	4.8
	34	3.2	3.2
	35	2.6	2.6
	36	5.0	5.0
	37	3.2	3.2
	38	3.0	3.1
	39	2.6	2.3
	40	3.1	2.9
	41	2.3	2.3
	42	3.3	3.3
	43	5.0	5.0
	44	3.3	3.3
IC4 9G	1	0.0	0.0
	2	5.3	5.3
	3	0.0	0.0
	4	0.0	0.0
	5	5.3	5.3
IC5 8F	1	0.0	0.0
	2	5.2	5.2
	3	0.0	0.0
	4	0.0	0.0
	5	5.3	5.3
IC6 7D	1	0.0	0.0
	2	5.3	5.3
	3	0.0	0.0
	4	0.0	0.0
	5	0.2	0.2
	6	0.0	0.0
	7	5.3	5.3
	8	0.0	0.0
	9	4.9	4.9
	10	0.4	0.4
	11	5.3	5.3
	12	0.2	0.2
	13	5.3	5.3
	14	4.9	4.9
	15	0.0	0.0
	16	5.3	5.3
IC7 8G	1	0.0	—
	2	—	—
	3	0.0	0.0
	4	—	—
	5	5.3	5.3
IC8 3E	1	6.5	6.5
	2	1.7	2.6
	3	6.5	6.5
	4	0.0	0.0
	5	0.0	0.0
	6	11.6	11.6
	7	5.8	5.8
	8	0.0	0.0
IC11 12D	1	0.0	0.0
	2	4.0	0.0
	3	0.0	0.0
	4	0.0	5.3
	5	5.3	5.3
IC13 11C	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	5.3	5.3
	5	5.3	5.3
	6	5.2	5.2
	7	5.3	5.3
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	0.0	0.0
	12	0.0	0.0
	13	5.3	5.3
	14	0.0	0.0
	15	5.3	5.3
	16	5.3	5.3
IC14 8G	1	0.0	—
	2	5.3	0.0
	3	0.0	0.0
	4	0.0	5.2
	5	5.3	5.3
IC15 8D	1	2.8	2.8
	2	4.7	4.7
	3	2.8	2.8
	4	0.0	0.0
	5	0.0	0.0
	6	5.0	5.0
	7	2.1	2.0
	8	0.0	0.0
TRANSISTOR			
Q1 10F	B	4.8	4.8
	C	11.9	12.0
	E	4.8	4.8
Q2 10F	B	4.8	4.8
	C	10.9	10.9
	E	4.8	4.3
Q3 11F	B	10.9	10.9
	C	5.5	5.5
	E	11.6	11.6
Q4 11F	B	5.5	5.5
	C	11.9	12.0
	E	4.9	4.9
Q5 13F	B	1.8	1.8
	C	3.9	4.1
	E	1.2	1.2
Q6 12E	B	0.1	2.0
	C	0.0	1.4
	E	1.2	1.3
Q7 13E	B	1.2	1.4
	C	0.0	0.0
	E	1.8	2.0
Q8 14F	B	1.8	1.8
	C	3.9	4.1
	E	1.2	1.2
Q9 14G	B	0.1	2.1
	C	0.3	1.4
	E	1.2	1.4
Q10 14G	B	1.2	1.4
	C	0.0	0.0
	E	1.8	2.1
Q11 14E	B	0.8	0.8
	C	0.0	0.0
	E	1.4	1.4
Q12 15C	B	1.6	1.6
	C	2.5	2.5
	E	1.0	0.9
Q13 15D	B	2.6	3.1
	C	5.2	5.2
	E	2.5	2.4
Q14 3F	B	2.1	—
	C	0.1	0.1
	E	0.0	0.0
Q15 2F	B	2.2	—
	C	0.0	0.0
	E	0.0	0.0
Q16 2C	B	4.2	4.2
	C	8.4	8.4
	E	3.6	3.6
Q17 2C	B	8.4	8.4
	C	2.9	2.9
	E	9.0	9.1
Q18 2B	B	2.9	2.9
	C	12.0	12.0
	E	2.7	2.3
Q19 11C	B	5.2	5.2
	C	12.0	12.0
	E	4.6	4.6
Q20 12C	B	11.2	11.2
	C	5.2	5.2
	E	11.8	11.9
Q21 11C	B	2.5	2.5
	C	11.2	11.2
	E	1.9	1.9
Q22 11E	B	1.6	1.4
	C	0.0	0.0
	E	2.2	2.1
Q23 7E	B	5.3	5.3
	C	1.1	—
	E	5.2	5.2
Q24 9E	B	0.2	0.2
	C	4.9	4.8
	E	0.0	0.0
Q25 9E	B	2.6	2.6
	C	5.0	5.0
	E	2.0	2.0
Q26 9F	B	5.3	5.3
	C	0.0	0.0
	E	0.0	0.0
Q27 8E	B	5.3	5.3
	C	0.0	0.0
	E	0.0	0.0
Q28 8E	B	0.0	0.3
	C	0.0	5.3
	E	0.0	0.0
Q30 7F	B	—	—
	C	—	—
	E	0.0	0.0
Q31 7E	B	0.0	0.0
	C	—	0.0
	E	0.0	0.0
Q32 7D	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q33 7E	B	0.2	1.8
	C	5.0	3.7
	E	0.0	1.3
Q34 10F	B	5.2	5.2
	C	0.0	0.0
	E	0.0	0.0
Q35 13D	B	5.8	5.8
	C	11.6	11.6
	E	5.2	5.1
Q36 13D	B	4.1	4.1
	C	0.0	0.0
	E	4.8	4.8
Q37 13D	B	8.2	8.2
	C	11.6	11.6
	E	7.6	7.6
Q38 13C :Q37	B	4.0	4.0
	C	8.2	8.2
	E	3.4	3.4
Q39 14D	B	5.8	5.8
	C	11.6	11.6
	E	5.2	5.2
Q40 14D	B	4.4	4.5
	C	0.0	0.0
	E	5.1	5.1
Q41 13D	B	8.2	8.2
	C	11.6	11.6
	E	7.6	7.6
Q42 13C :Q41	B	4.0	4.0
	C	8.2	8.3
	E	3.4	3.4
Q44 6E	B	3.7	3.7
	C	11.2	11.2
	E	3.2	3.1
Q45 6F	B	11.2	11.2
	C	3.9	3.8
	E	11.8	11.9
Q46 6F	B	3.9	3.8
	C	12.0	12.0
	E	3.3	3.2
Q47 6E	B	5.2	5.2
	C	0.0	0.0
	E	0.0	0.0
Q48 2F	B	5.0	5.1
	C	7.9	8.0
	E	4.4	4.5

— DC Voltage (2/2) —

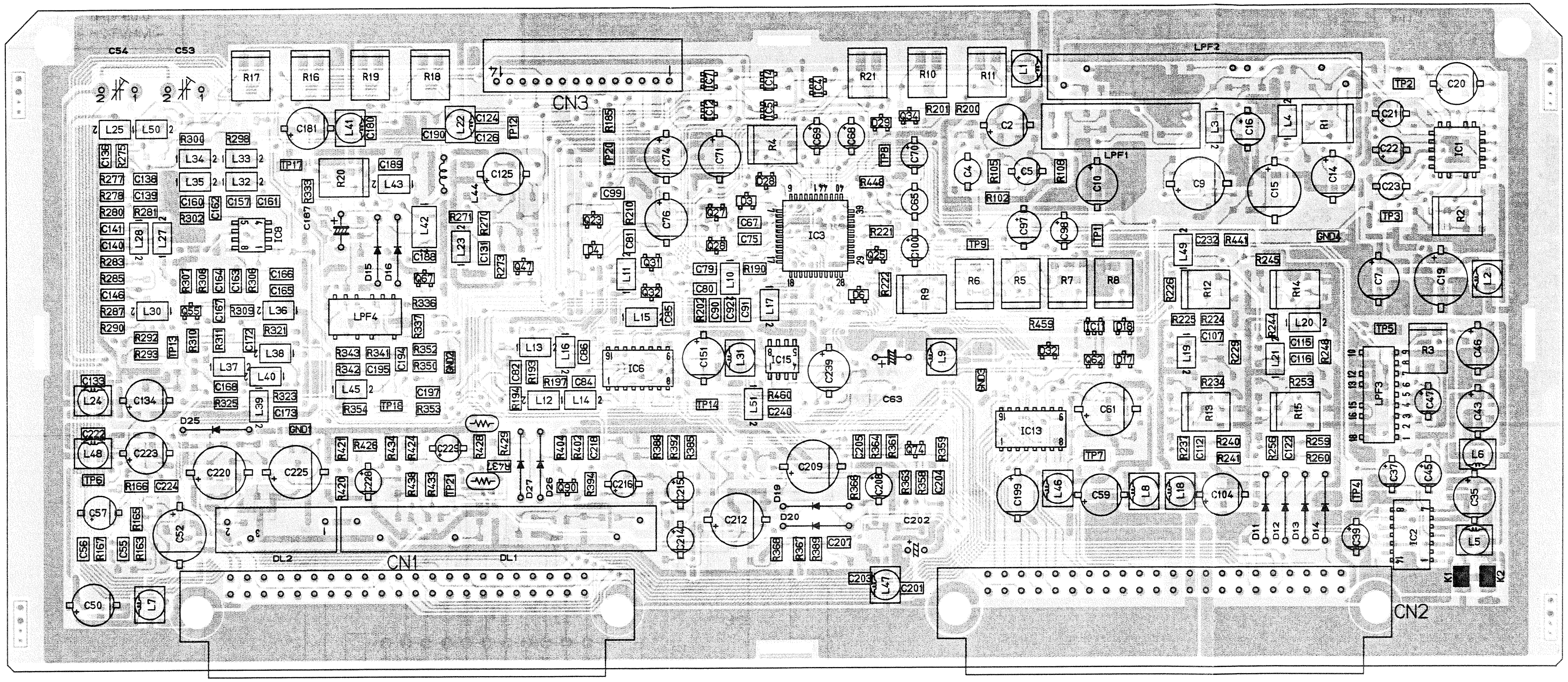
SYMBOL	No.	REC	PB
Q49 4F	B C E	— 0.0 0.0	— 0.0 0.0
Q50 3F	B C E	— 0.0 0.0	— 0.0 0.0
Q51 2E	B C E	8.1 2.8 8.8	8.2 2.8 8.8
Q52 2D	B C E	2.8 11.6 2.2	2.8 11.6 2.5
Q53 2D	B C E	2.4 11.6 3.4	2.4 11.6 3.4
Q54 2D	B C E	4.0 11.6 3.4	3.9 11.6 3.3
Q55 3D	B C E	5.1 7.2 4.5	5.1 7.2 4.5
Q56 5F	B C E	— 0.0 0.0	— 0.0 0.0
Q57 4F	B C E	— 0.0 0.0	— 0.0 0.0
Q58 3D	B C E	4.6 7.7 4.0	4.6 7.7 4.0
Q59 3E	B C E	7.7 3.3 8.3	7.7 3.3 8.3
Q60 3D	B C E	8.4 2.6 9.0	8.4 2.6 9.0
Q61 4D	B C E	9.0 11.6 8.3	9.0 11.6 8.4
Q62 12D	B C E	0.1 4.0 0.0	0.1 0.1 0.0
Q63 5E	B C E	2.4 8.9 1.8	2.4 8.9 1.8
Q64 4F	B C E	5.0 0.0 0.0	0.0 0.0 0.0
Q65 4F	B C E	8.9 11.7 8.3	8.9 11.7 8.3
Q66 5E	B C E	8.9 0.0 9.5	8.9 0.0 9.5
Q67 5E	B C E	0.0 0.0 0.0	0.0 0.0 0.0
Q68 5D	B C E	9.5 11.7 8.9	9.5 11.7 8.9
Q69 4D	B C E	3.2 8.7 2.6	3.2 8.7 2.6
Q70 5C	B C E	2.3 10.1 1.7	2.3 10.1 1.7

SYMBOL	No.	REC	PB
Q71 5D	B C E	2.4 1.8 1.8	2.4 1.8 1.8
Q72 5D	B C E	1.8 0.0 2.4	1.8 0.0 2.4
Q73 10F	B C E	2.3 0.0 2.5	5.2 0.0 2.4
Q74 10C	B C E	3.8 11.0 3.8	3.8 11.0 3.2
Q75 10B	B C E	11.0 6.1 11.6	11.0 5.9 11.6
Q76 10B	B C E	6.1 11.9 5.8	5.9 11.9 5.3
Q77 9B	B C E	5.9 11.9 5.6	5.9 11.9 5.3
Q81 9B	B C E	0.0 0.1 0.0	0.0 0.0 0.0
Q82 8C	B C E	7.5 11.9 7.0	7.5 11.9 6.9
Q83 8C	B C E	7.5 11.9 7.0	7.5 11.9 6.9
Q84 8C	B C E	6.9 11.9 6.3	6.9 11.9 6.3
Q85 8B	B C E	0.9 0.0 1.6	0.9 0.0 1.6
Q86 7B	B C E	2.1 11.9 2.2	2.1 11.9 2.2
Q87 7C:Q86	B C E	2.2 10.6 1.6	2.2 10.6 1.6
Q88 7C	B C E	10.6 3.3 11.2	10.6 3.3 11.2
Q89 6C	B C E	3.3 11.9 2.8	3.3 11.9 2.7
Q90 6B	B C E	2.2 11.9 2.9	2.2 11.9 2.7
Q92 6B	B C E	2.7 0.0 3.4	2.7 0.0 3.4
Q93 3C	B C E	3.3 11.0 2.9	3.3 11.1 2.7
Q94 3C	B C E	11.0 5.5 11.7	11.1 5.5 11.7
Q95 4C	B C E	5.5 11.9 5.0	5.5 11.9 4.9
Q96 4B	B C E	5.5 11.7 4.8	5.5 11.7 4.8

SYMBOL	No.	REC	PB
Q97 5C	B C E	1.5 7.2 1.0	1.5 7.3 1.0
Q98 6C	B C E	5.6 11.7 5.7	5.6 11.7 5.0
Q99 5C	B C E	5.0 11.7 4.4	5.0 11.7 4.4
Q100 4B	B C E	4.8 11.7 4.2	4.9 11.7 4.2
Q101 5B	B C E	4.3 11.7 3.7	4.3 11.7 3.7
Q102 5B	B C E	4.3 11.7 3.7	4.3 11.7 3.7
Q103 10D	B C E	0.0 0.0 0.5	0.0 0.0 0.3
Q104 6D	B C E	0.0 0.0 0.5	0.0 0.0 0.3
Q105 2B	B C E	0.0 0.0 0.7	0.0 0.0 0.3
Q106 9D	B C E	1.8 0.0 2.5	2.0 0.0 2.6
Q107 8D	B C E	5.2 0.0 0.0	5.2 0.0 0.0
CONNECTOR			
CN1	1A 1B 2A 2B 3A 3B 4A 4B 5A 5B 6A 6B 7A 7B 8A 8B 9A 9B 10A 10B 11A 11B 12A 12B 13A 13B 14A 14B 15A 15B 16A 16B 17A 17B 18A 18B 19A 19B 20A 20B 21A	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 3.0 0.0 4.2 0.0 0.2 0.0 0.4 0.0 2.0 5.3 5.2 0.0 0.0 5.0 0.0 5.0 4.1 0.0 3.4 0.0 0.0 0.0 0.0 0.0 0.1 0.0 3.7 0.0 0.0 0.0 2.0 —	0.0 0.8 0.3 0.4 0.4 0.4 0.4 0.4 0.0 — 0.0 4.2 0.0 0.2 0.0 0.4 0.0 2.0 5.3 5.2 0.0 0.0 0.0 0.0 0.0 4.0 0.0 3.4 0.4 0.3 0.4 0.2 0.2 0.2 0.0 3.7 0.3 0.3 0.0 2.0 0.3

SYMBOL	No.	REC	PB
CN1	21B 22A 22B	2.3 0.0 2.0	0.3 0.0 2.0
CN2	1A 1B 2A 2B 3A 3B 4A 4B 5A 5B 6A 6B 7A 7B 8A 8B 9A 9B 10A 10B 11A 11B 12A 12B 13A 13B 14A 14B 15A 15B 16A 16B 17A 17B 18A 18B 19A 19B 20A 20B 21A 21B 22A 22B	0.0 0.0 0.0 2.4 0.0 7.0 0.0 2.6 0.0 0.0 0.0 1.3 0.0 4.9 0.0 0.0 5.3 5.3 12.0 12.0 0.0 0.0 0.0 4.6 0.0 3.0 0.0 5.3 0.0 1.8 0.1 0.0 0.0 3.7 5.3 0.0 5.3 4.0 0.0 5.3 0.0 2.0 0.0 0.1	0.0 0.0 0.0 2.4 0.0 6.9 0.2 2.6 0.0 0.2 0.0 1.3 0.0 4.9 0.2 0.2 5.3 5.3 12.0 12.0 0.0 0.0 0.0 4.6 0.0 2.8 0.0 5.3 0.0 1.7 0.1 0.0 0.0 3.7 5.3 0.0 5.3 0.1 0.0 5.3 0.0 2.0 0.0 0.0
CN3	1 2 3 4 5 6 7 8 9 10 11 12 13 14	0.0 0.0 — 0.0 — 0.0 — 3.2 0.0 5.0 — 5.3 0.8 0.0	0.0 0.0 — 0.0 — 0.0 3.0 2.0 0.0 0.0 — 5.3 0.9 0.0

— PARTS Side —


CN1
CN2
CN3
IC1
IC2
IC3
IC6
IC8
IC13
IC15
LPF1
LPF2
LPF3
LPF4
DL1
DL2
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
C2
C9
C10
C14
C15
C16
C19
C20
C35
C43
C46
C50
C52
C57
C59
C61
C71
C74
C76
C104
C125
C134
C151
C181
C199
C209
C212
C220
C223
C225
C239
D11
D12
D13
D14
D15
D16
D19
D20
D25
D26
D27
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP12
TP14
TP16
TP17
TP20
TP21
GND1
GND2
GND3
GND4
K1
K2

(PRK20263-01-02)

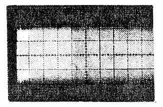
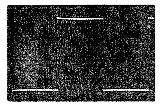
6
5
4
3
2
1

A B C D E F G H

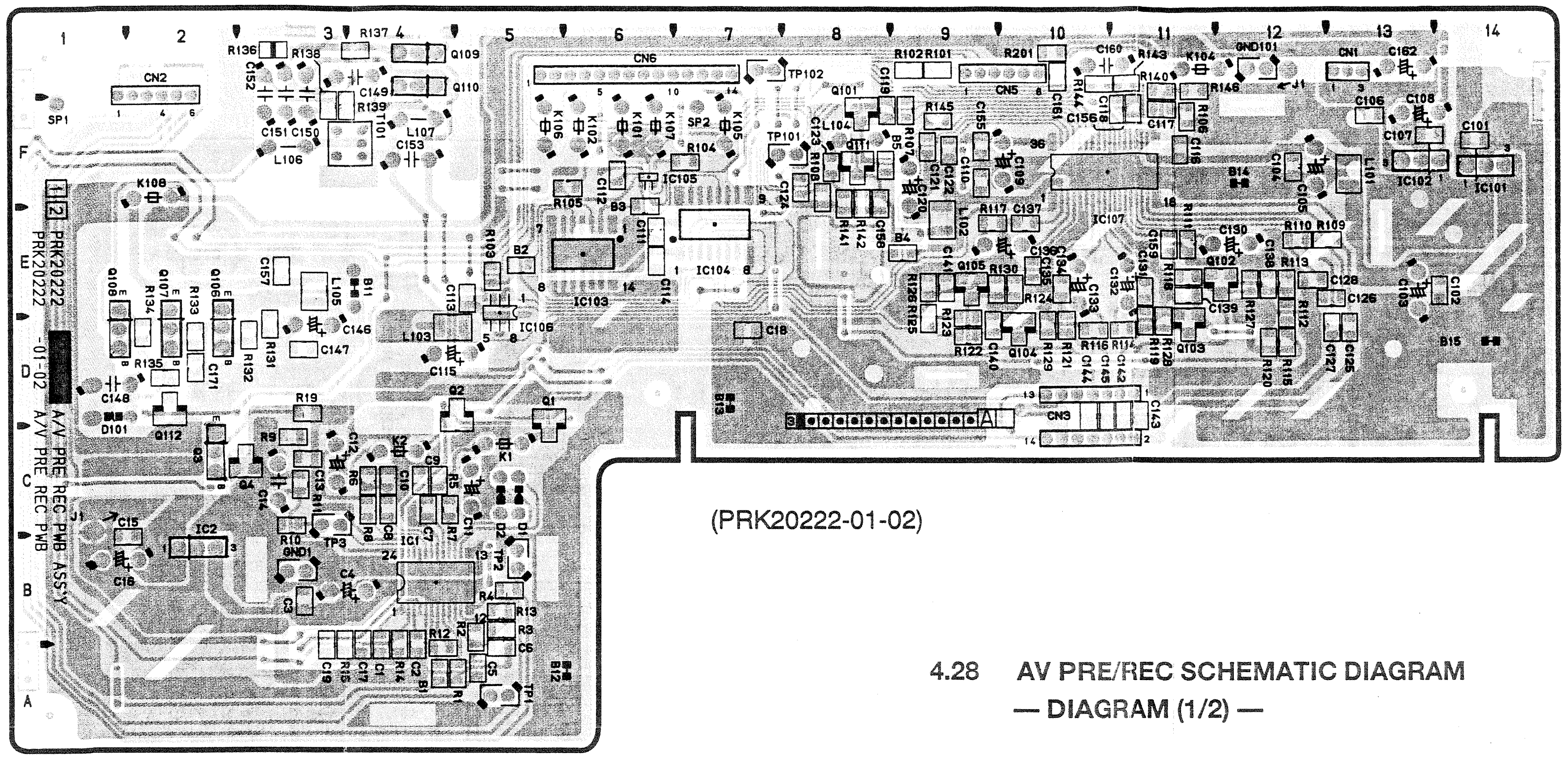
4.27 AV PR E/REC AND DRUM CIRCUIT BOARDS

— AV PRE/REC —

— MAIN WAVEFORMS OF PRE/REC CIRCUIT —

TP101	TP102
	
[PB] 0.09 Vp-p – MHVE-2H –	[PB] 4.0 Vp-p – MHVE-2H –

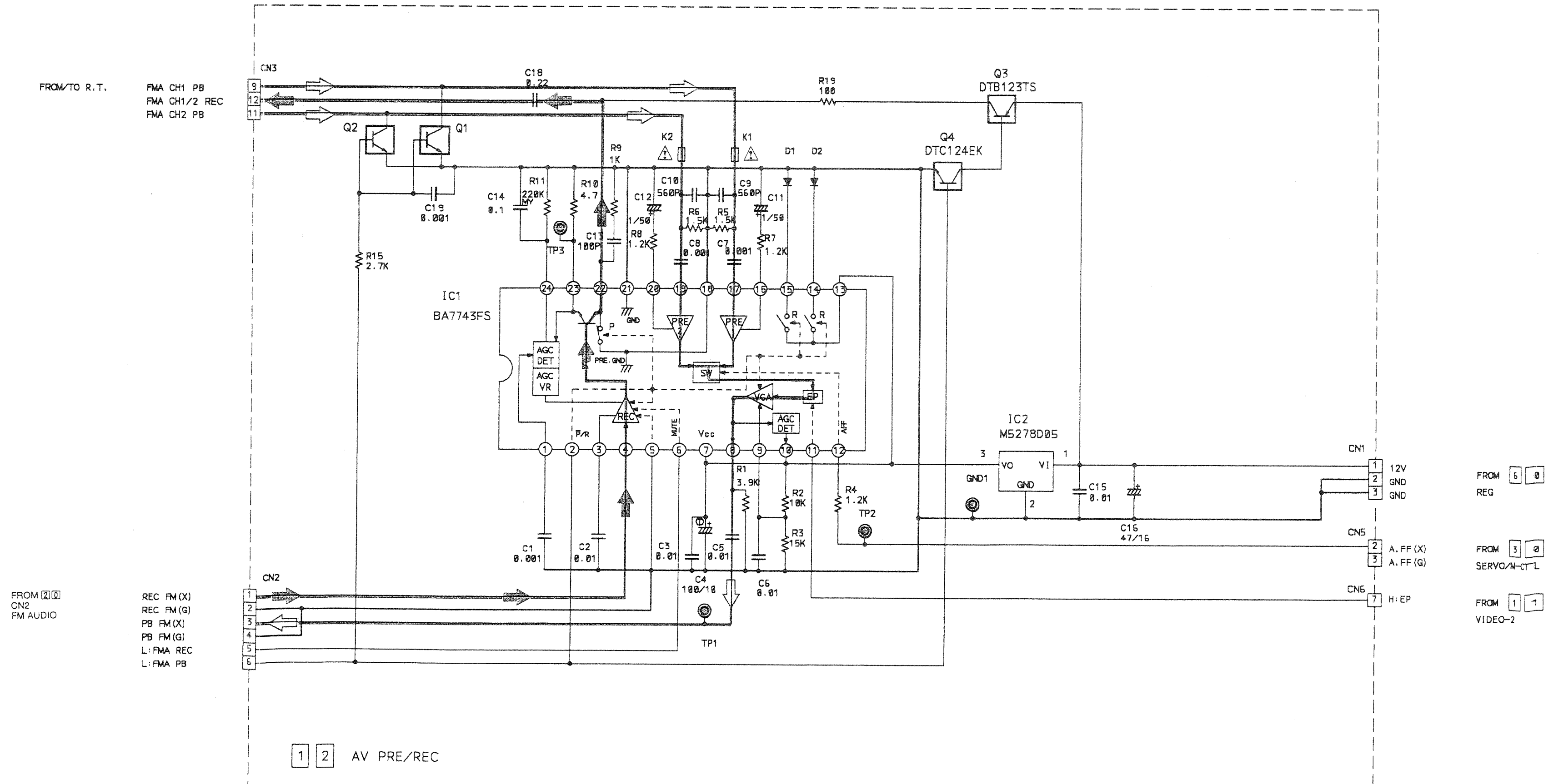
— SOLDER Side —


CN2
SP1
CN6
TP102
TP101
Q101
IC104
IC103
IC105
IC106
IC107
IC101
IC102
CN5
CN1
CN9
K108
D101
Q112
IC2
IC1
Q1
Q2
TP2
TP3
PRK20222 -01-02
A/V PRE REC PWB ASS'Y

(PRK20222-01-02)

4.28 AV PRE/REC SCHEMATIC DIAGRAM

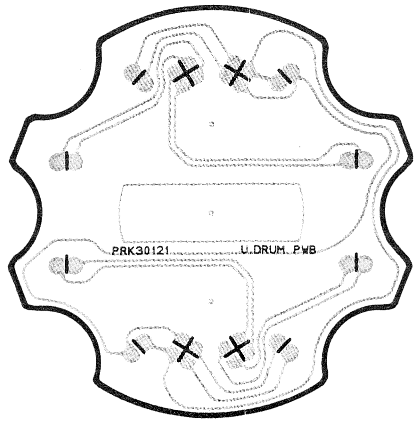
— DIAGRAM (1/2) —


FROM/TO R.T.
FMA CH1 PB
FMA CH1/2 REC
FMA CH2 PB
CN3
C18 0.22
R19 100
Q3 DTB123TS
Q4 DTC124EK
Q2
Q1
K2
K1
D1
D2
R9 1K
R11 220K
R10 4.7
C10 560P
C9 560P
C11 1/50
C14 0.1
C12 1/50
C13 100P
R8 1.2K
R6 1.5K
R5 1.5K
R7 1.2K
C8 0.001
C7 0.001
C19 0.001
TP3
R15 2.7K
IC1 BA7743FS
AGC DET
AGC VR
PRE.GND
REC
PRE
SW
VCA
EP
AGC DET
MUTE
Vcc
AFF
P/R
R1 3.9K
R2 10K
R3 15K
R4 1.2K
TP2
C1 0.001
C2 0.01
C3 0.01
C4 100/10
C5 0.01
C6 0.01
TP1
IC2 M5278D05
VO VI GND
GND1
C15 0.01
C16 47/16
CN1
12V
GND
GND
FROM 6 0 REG
CN5
A.FF(X)
A.FF(G)
FROM 3 0 SERVO/M-CTL
CN6
H:EP
FROM 1 1 VIDEO-2
FROM 2 0 CN2 FM AUDIO
CN2
REC FM(X)
REC FM(G)
PB FM(X)
PB FM(G)
L:FMA REC
L:FMA PB
1 2 AV PRE/REC

NOTE:UNLESS OTHERWISE SPECIFIED:
ALL PNP TRANSISTORS ARE 2SB973AR
ALL NPN DIGITAL TRANSISTORS ARE DTC323TK
ALL DIODES ARE 1SS136
ALL RESISTANCE VALUES ARE IN OHMS. (#/#W)
ALL INDUCTANCE VALUES ARE IN μH.

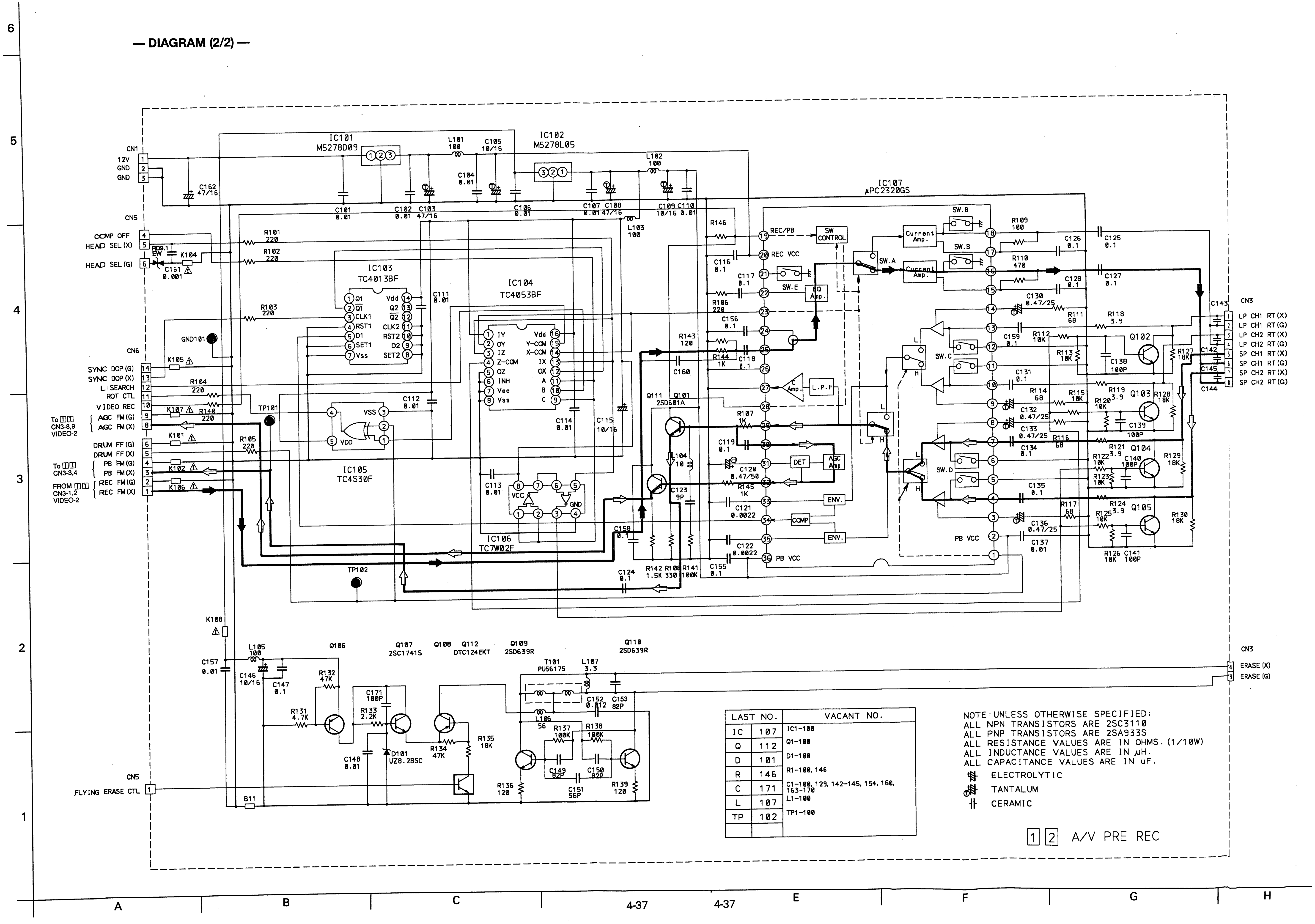
ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
NON-POLARIZED
TANTALUM
CERAMIC
MYLAR

— DRUM —


PRK30121
U.DRUM PWB

(PRK30121)

— DIAGRAM (2/2) —


6
5
4
3
2
1
A
B
C
E
F
G
H
CN1
12V
GND
GND
C162 47/16
IC101 M5278D09
L101 100
C105 10/16
C101 0.01
C102 0.01
C103 47/16
C104 0.01
IC102 M5278L05
L102 100
C106 0.01
C107 0.01
C108 47/16
C109 10/16
C110 0.01
L103 100
CN5
COMP OFF
HEAD SEL (X)
HEAD SEL (G)
RD9.1 EW
K104
C161 0.001
R101 220
R102 220
R103 220
IC103 TC4013BF
IC104 TC4053BF
C111 0.01
GND101
CN6
SYNC DOP (G)
SYNC DOP (X)
L:SEARCH
ROT CTL
VIDEO REC
AGC FM (G)
AGC FM (X)
To 1 2 CN3-8,9 VIDEO-2
DRUM FF (G)
DRUM FF (X)
PB FM (G)
PB FM (X)
To 1 2 CN3-3,4
REC FM (G)
REC FM (X)
FROM 1 2 CN3-1,2 VIDEO-2
K105
R104 220
K107
R140 220
K101
K102
K106
TP101
R105 220
IC105 TC4S30F
C112 0.01
C113 0.01
IC106 TC7W02F
C114 0.01
C115 10/16
TP102
IC107 μPC2320GS
R146
REC/PB
SW CONTROL
REC VCC
C116 0.1
C117 0.1
SW.E
EQ Amp.
R106 220
C156 0.1
R143 120
R144 1K
C118 0.1
C160
C Amp.
L.P.F
Q111
Q101 2SD601A
R107 1K
C119 0.1
L104 10
C120 0.47/50
R145 1K
DET
AGC Amp
C123 9P
C121 0.0022
ENV.
COMP
C158 0.1
C122 0.0022
PB VCC
C124 0.1
R142 1.5K
R108 330
R141 100K
C155 0.1
SW.B
Current Amp.
SW.A
R109 100
R110 470
C126 0.1
C125 0.1
C128 0.1
C127 0.1
C130 0.47/25
R111 68
R118 3.9
Q102
C159 0.1
R112 10K
R113 10K
C138 100P
R127 18K
SW.C
C131 0.1
R114 68
R115 10K
R119 3.9
R120 10K
Q103
R128 18K
C132 0.47/25
C139 100P
C133 0.47/25
R116 68
C134 0.1
R121 3.9
R122 10K
Q104
C140 100P
R129 18K
R123 10K
SW.D
C135 0.1
R117 68
R124 3.9
R125 10K
Q105
R130 18K
C136 0.47/25
C137 0.01
R126 10K
C141 100P
C142
C143
C144
C145
CN3
LP CH1 RT (X)
LP CH1 RT (G)
LP CH2 RT (X)
LP CH2 RT (G)
SP CH1 RT (X)
SP CH1 RT (G)
SP CH2 RT (X)
SP CH2 RT (G)
K108
C157 0.01
L105 100
C146 10/16
C147 0.1
Q106
R132 47K
R131 4.7K
Q107 2SC1741S
C171 100P
R133 2.2K
Q108 Q112 DTC124EKT
Q109 2SD639R
Q110 2SD639R
T101 PU56175
L107 3.3
C152 0.012
C153 82P
L106 56
R137 100K
R138 100K
C149 82P
C150 82P
C151 56P
R135 18K
R134 47K
C148 0.01
D101 UZ8.2BSC
R136 120
R139 120
CN3
ERASE (X)
ERASE (G)
CN5
FLYING ERASE CTL
B11

LAST NO.		VACANT NO.
IC	107	IC1-100
Q	112	Q1-100
D	101	D1-100
R	146	R1-100, 146
C	171	C1-100, 129, 142-145, 154, 160, 163-170
L	107	L1-100
TP	102	TP1-100

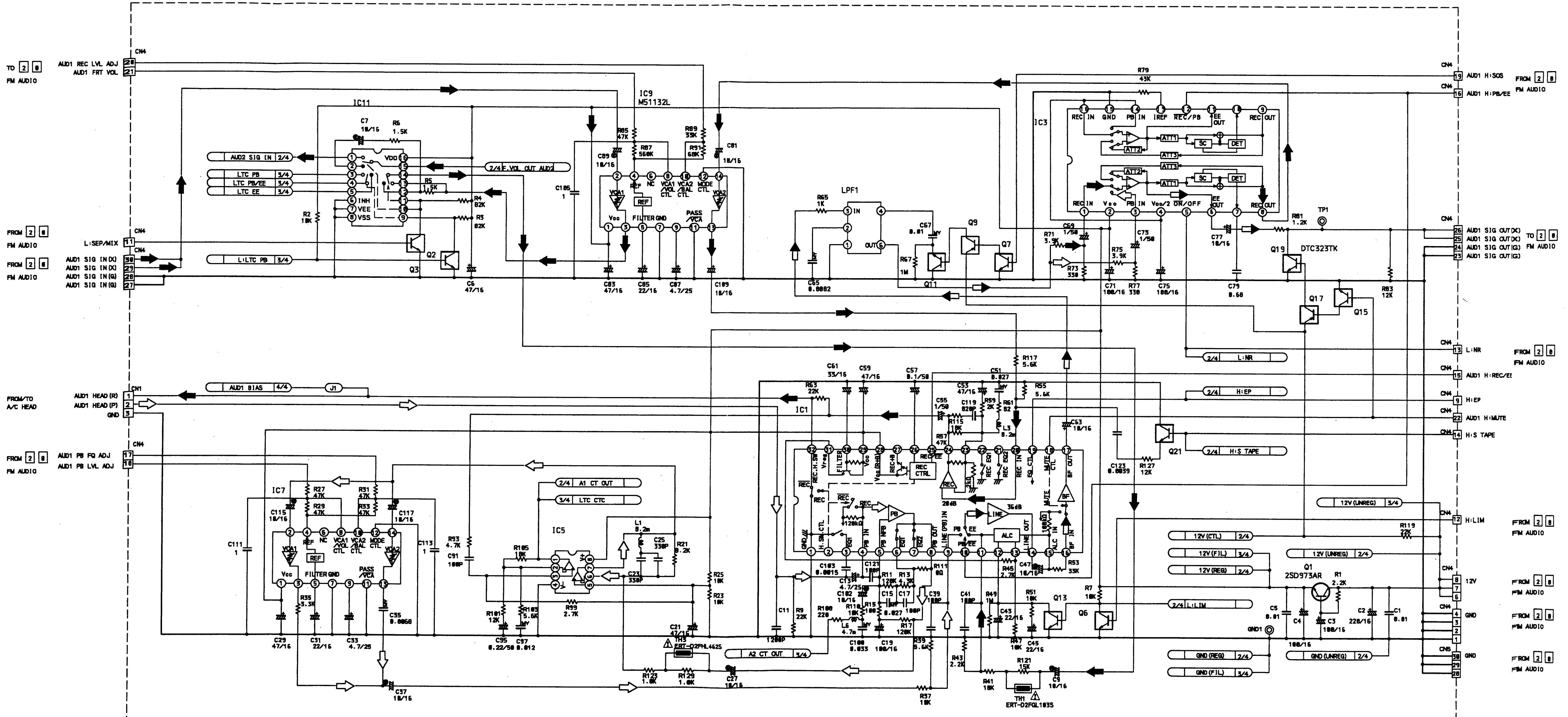
NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC3110
ALL PNP TRANSISTORS ARE 2SA933S
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN uF.

ELECTROLYTIC
TANTALUM
CERAMIC

1 2 A/V PRE REC

4.29 NORMAL AUDIO SCHEMATIC DIAGRAM (BR-S800E)

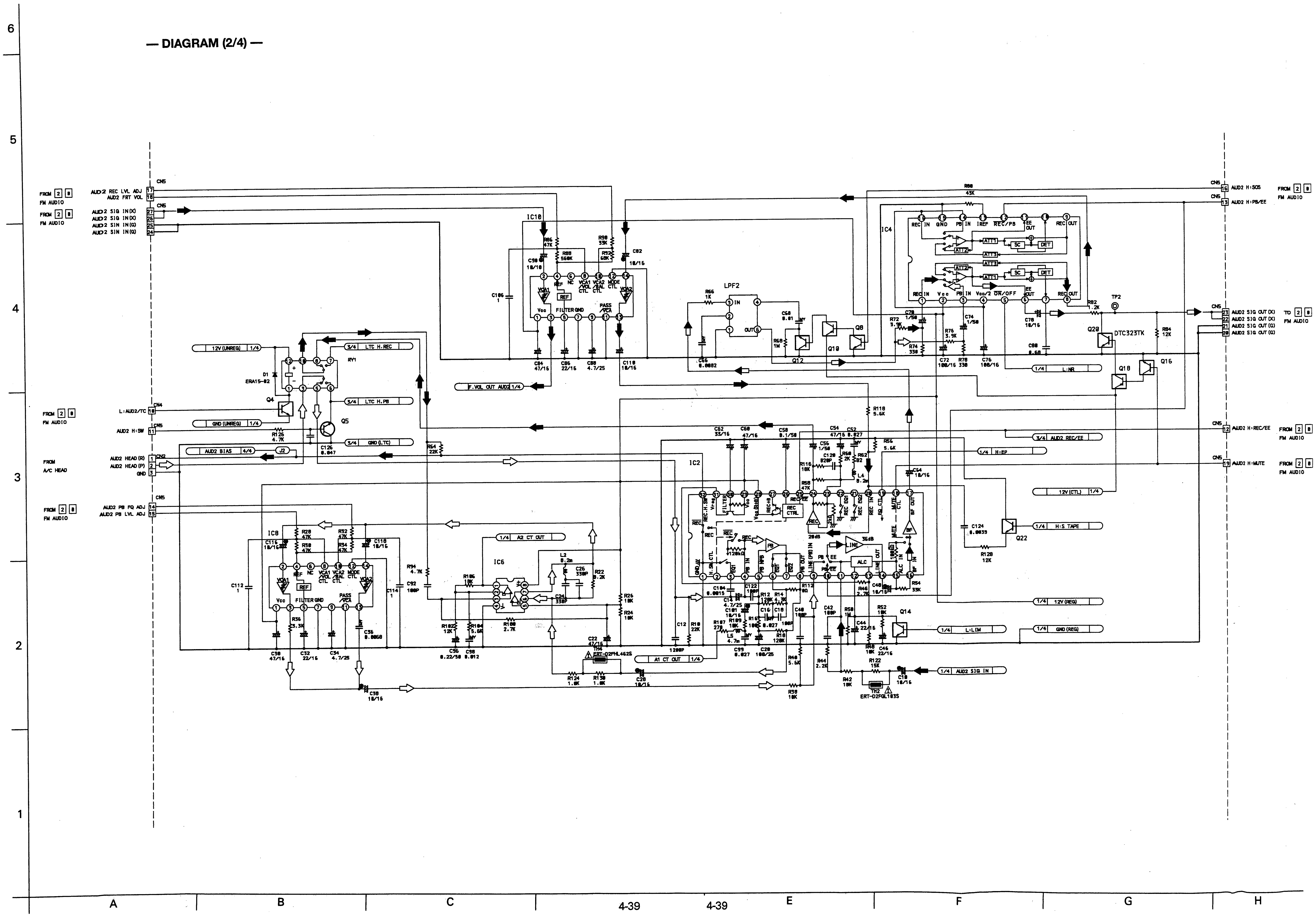
— DIAGRAM (1/4) —


TO 2 8 FM AUDIO
AUD1 REC LVL ADJ
AUD1 FRT VOL
CN4
FROM 2 8 FM AUDIO
L:SEP/MIX
AUD1 SIG IN(X)
AUD1 SIG IN(X)
AUD1 SIG IN(G)
AUD1 SIG IN(G)
IC11
C7 10/16
R6 1.5K
AUD2 SIG IN 2/4
LTC PB 3/4
LTC PB/EE 3/4
LTC EE 3/4
VDD
INH
VEE
VSS
R5 1.5K
R4 82K
R3 82K
R2 10K
Q2
Q3
C6 47/16
L:LTC PB 3/4
2/4 F.VOL OUT AUD2
C105 1
IC9
M51132L
R85 47K
R87 560K
R89 33K
R91 68K
C89 10/16
C81 10/16
REF
NC
VCA1 /VOL CTL
VCA2 /BAL CTL
MODE CTL
VCA1
VCA2
Vcc
FILTER GND
PASS /VCA
C83 47/16
C85 22/16
C87 4.7/25
C109 10/16
LPF1
R65 1K
IN
OUT
C65 0.0082
C67 0.01
R67 1M
Q9
Q7
Q11
IC3
R79 43K
REC IN
GND
PB IN
IREF
REC/PB
EE OUT
REC OUT
ATT1
ATT2
ATT3
SC
DET
Vcc
Vcc/2
ON/OFF
C69 1/50
R71 3.9K
R73 330
C73 1/50
R75 3.9K
C71 100/16
R77 330
C75 100/16
C77 10/16
C79 0.68
R81 1.2K
TP1
Q19
DTC323TK
Q17
Q15
R83 12K
CN4
AUD1 H:SOS
AUD1 H:PB/EE
FROM 2 8 FM AUDIO
AUD1 SIG OUT(X)
AUD1 SIG OUT(X)
AUD1 SIG OUT(G)
AUD1 SIG OUT(G)
TO 2 8 FM AUDIO
L:NR
2/4 L:NR
FROM 2 8 FM AUDIO
AUD1 H:REC/EE
H:EP
2/4 H:EP
AUD1 H:MUTE
H:S TAPE
2/4 H:S TAPE
FROM/TO A/C HEAD
AUD1 HEAD (R)
AUD1 HEAD (P)
GND
CN1
AUD1 BIAS 4/4
J1
FROM 2 8 FM AUDIO
AUD1 PB FQ ADJ
AUD1 PB LVL ADJ
IC7
R27 47K
R29 47K
R31 47K
R33 47K
C115 10/16
C117 10/16
C111 1
C113 1
R35 5.3K
C35 0.0068
C29 47/16
C31 22/16
C33 4.7/25
C37 10/16
2/4 A1 CT OUT
3/4 LTC CTC
IC5
R93 4.7K
C91 100P
R105 10K
R101 12K
R103 5.6K
C95 0.22/50
C97 0.012
R99 2.7K
L1 8.2m
C25 330P
C23 330P
R21 8.2K
R25 10K
R23 10K
C21 47/16
TH3
ERT-D2FHL462S
R123 1.0K
R129 1.0K
C27 10/16
A2 CT OUT 3/4
IC1
C61 33/16
C59 47/16
C57 0.1/50
C51 0.027
R63 22K
C53 47/16
R55 5.6K
C55 1/50
C119 820P
R59 2K
R61 82
R115 10K
R57 47K
L3 8.2m
C63 10/16
R117 5.6K
REC.H.SW
Vreg
FILTER
Vcc
Vcc (R+B)
REC+B
REC CTRL
REC/EE
REC EQ1
REC EQ2
REC IN
EQ CTL
MUTE CTL
BF OUT
REC
PB
20dB
36dB
LINE
ALC
BF
MUTE
120kΩ
2kΩ
100kΩ
GND
H.SW.CTL
EQ1
PB IN
PB NFB
EQT
EQ2
PB OUT
LINE (PB) IN
PB/EE
LINE OUT
ALC IN
BF IN
C103 0.0015
C121 100P
C13 4.7/25
C102 10/16
R11 120K
R13 4.3K
R111 80
R110 10K
R15 100
C15
C17
0.027
100P
C39 100P
R100 220
L6 4.7m
C11 1200P
R9 22K
C100 0.033
C19 100/16
R17 120K
R39 5.6K
R37 10K
R45 2.7K
C47 10/16
R53 33K
C41 100P
R49 1M
C43 22/16
R51 10K
R47 10K
C45 22/16
R43 2.2K
R41 10K
R121 15K
C9 10/16
TH1
ERT-D2FGL103S
Q13
Q6
R7 10K
C123 0.0039
R127 12K
Q21
12V (UNREG) 3/4
H:LIM
R119 22K
12V (CTL) 2/4
12V (FIL) 3/4
12V (REG) 2/4
12V (UNREG) 2/4
Q1
2SD973AR
R1 2.2K
C5 0.01
C4 100/16
C3 100/16
C2 220/16
C1 0.01
GND1
2/4 L:LIM
GND (REG) 2/4
GND (FIL) 3/4
GND (UNREG) 2/4
12V
GND
CN5

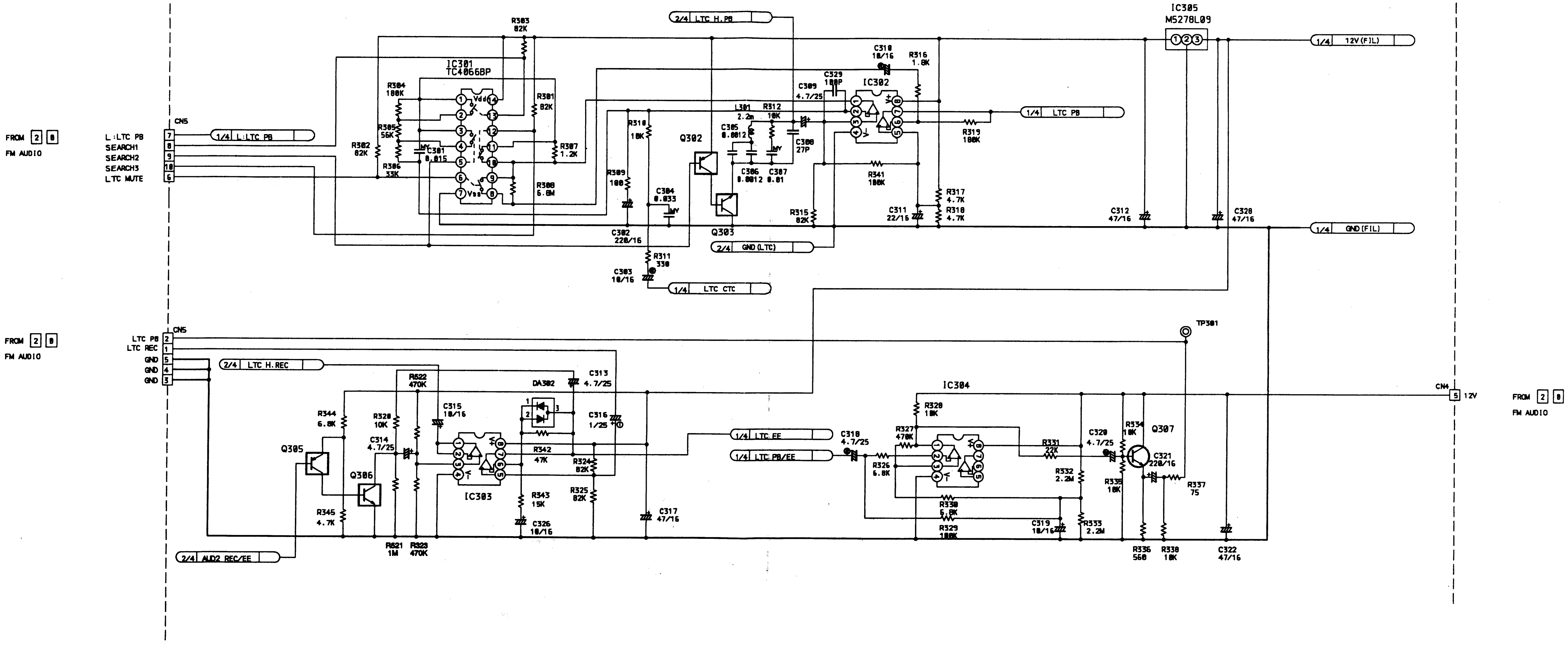
NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL NPN DIGITAL TRANSISTORS ARE DTC124EK
ALL PNP DIGITAL TRANSISTORS ARE DTA124EK
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.

ALL CAPACITANCE VALUES ARE IN uF.
- ELECTROLYTIC
- NON-POLARIZED
- TANTALUM
- CERAMIC
- MYLAR

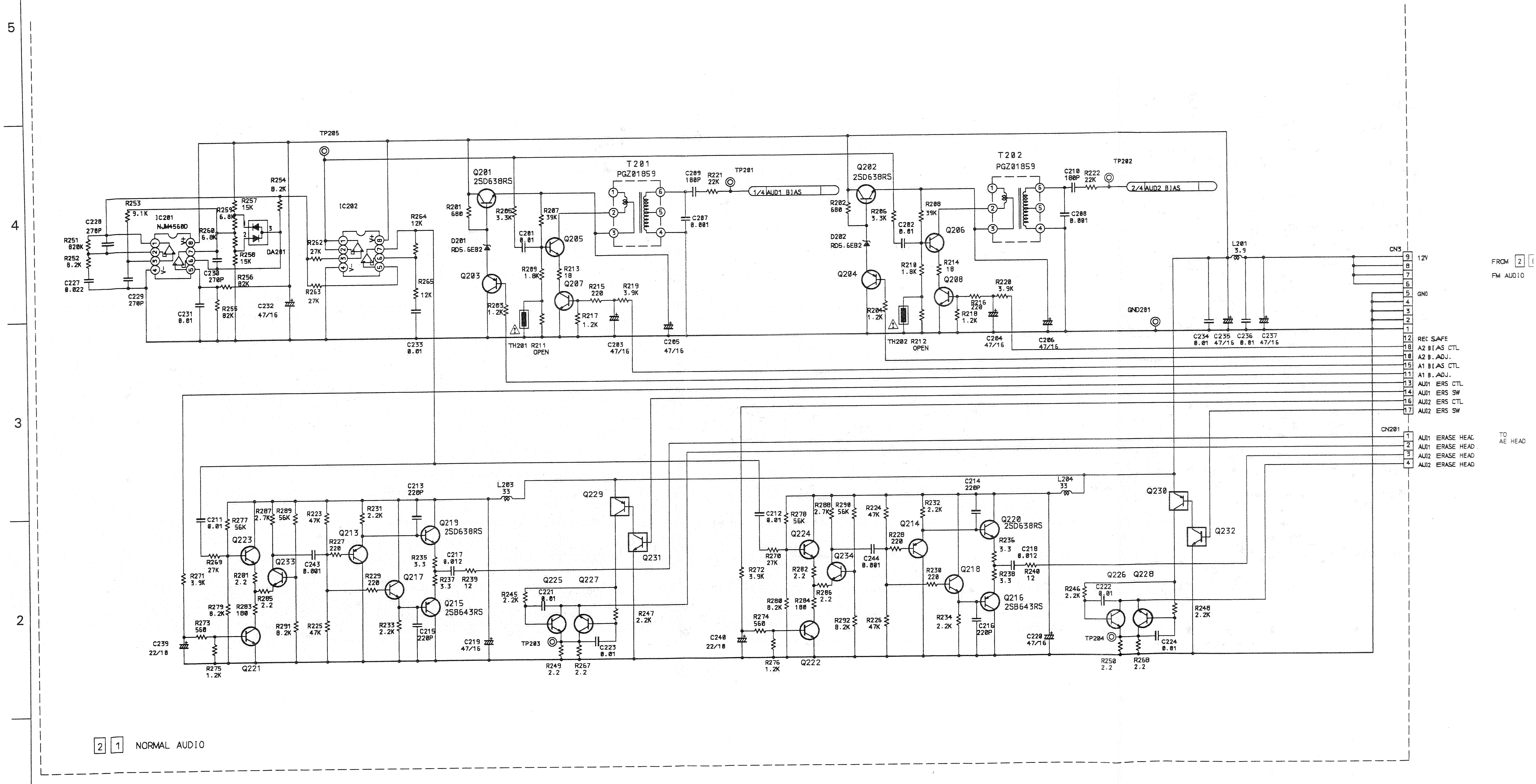
— DIAGRAM (2/4) —


6
5
4
3
2
1
A
B
C
E
F
G
H
FROM 2 8 FM AUDIO
AUD2 REC LVL ADJ 17
AUD2 FRT VOL 18
CN5
AUD2 SIG IN(X) 27
AUD2 SIG IN(X) 26
AUD2 SIN IN(G) 25
AUD2 SIN IN(G) 24
L:AUD2/TC 10
CN4
AUD2 H:SW 11
FROM A/C HEAD
CN2
AUD2 HEAD (R) 1
AUD2 HEAD (P) 2
GND 3
AUD2 PB FQ ADJ 14
AUD2 PB LVL ADJ 15
12V (UNREG) 1/4
GND (UNREG) 1/4
AUD2 BIAS 4/4
J2
D1 ERA15-02
Q4
Q5
RY1
R126 4.7K
C126 0.047
3/4 LTC H.REC
3/4 LTC H.PB
3/4 GND (LTC)
F.VOL OUT AUD2 1/4
IC10
IC8
IC6
IC2
IC4
LPF2
VCA1
VCA2
REF
FILTER GND
PASS /VCA
VCA1 /VOL CTL
VCA2 /BAL CTL
MODE CTL
1/4 A2 CT OUT
A1 CT OUT 1/4
TH1 ERT-D2FHL462S
TH2 ERT-D2FGL103S
REC IN GND PB IN IREF REC/PB EE OUT REC OUT
REC IN Vcc PB IN Vcc/2 ON/OFF EE OUT REC OUT
ATT1
ATT2
ATT3
SC
DET
TP2
Q8
Q10
Q12
Q14
Q16
Q18
Q20 DTC323TK
Q22
1/4 L:NR
3/4 AUD2 REC/EE
1/4 H:EP
12V (CTL) 1/4
1/4 H:S TAPE
1/4 12V (REG)
1/4 GND (REG)
1/4 L:LIM
1/4 AUD2 SIG IN
REC CTRL
REC
PB
LINE
ALC
BF
20dB
36dB
PB/EE
AUD2 H:SOS 16
AUD2 H:PB/EE 13
AUD2 SIG OUT (X) 23
AUD2 SIG OUT (X) 22
AUD2 SIG OUT (G) 21
AUD2 SIG OUT (G) 20
TO 2 8 FM AUDIO
AUD2 H:REC/EE 12
AUD2 H:MUTE 19

— DIAGRAM (3/4) —

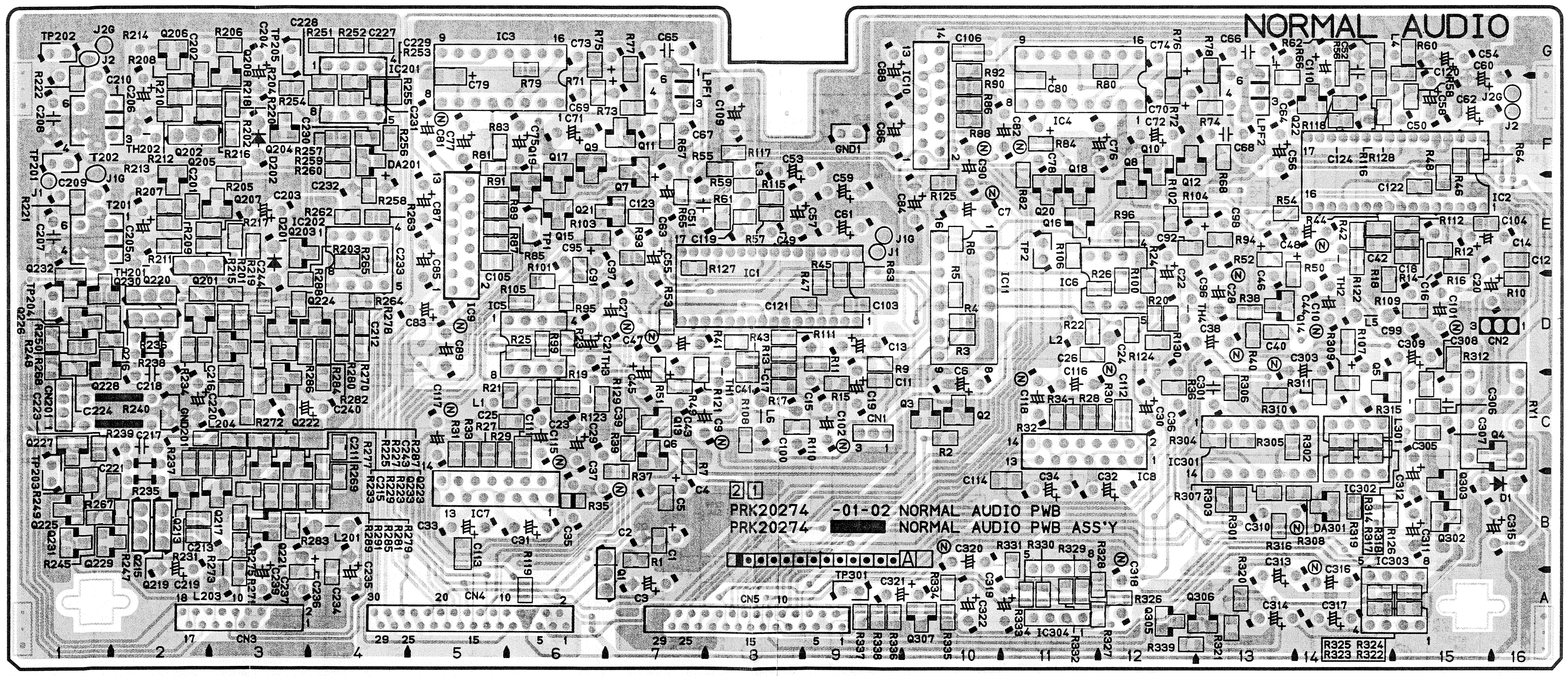

FROM 2 8
FM AUDIO
L:LTC PB
SEARCH1
SEARCH2
SEARCH3
LTC MUTE
CN5
1/4 L:LTC PB
IC301
TC4066BP
R303 82K
R304 100K
R305 56K
R306 33K
R302 82K
C301 0.015
R301 82K
R307 1.2K
R308 6.8M
2/4 LTC H.PB
R310 10K
R309 100
C302 220/16
C304 0.033
Q302
Q303
R311 330
C303 10/16
1/4 LTC CTC
2/4 GND (LTC)
C305 0.0012
C306 0.0012
C307 0.01
L301 2.2m
R312 10K
C309 4.7/25
C329 100P
C308 27P
C310 10/16
R316 1.8K
IC302
R319 100K
R341 100K
1/4 LTC PB
R315 82K
C311 22/16
R317 4.7K
R318 4.7K
IC305
M5278L09
C312 47/16
C328 47/16
1/4 12V(FIL)
1/4 GND(FIL)
LTC PB
LTC REC
GND
GND
GND
2/4 LTC H.REC
R322 470K
DA302
C313 4.7/25
R344 6.8K
R320 10K
C315 10/16
C316 1/25
C314 4.7/25
Q305
Q306
R342 47K
R324 82K
R325 82K
IC303
R343 15K
C326 10/16
C317 47/16
R345 4.7K
R321 1M
R323 470K
2/4 AUD2 REC/EE
1/4 LTC EE
1/4 LTC PB/EE
C318 4.7/25
IC304
R328 10K
R327 470K
R326 6.8K
R330 6.8K
R329 100K
C319 10/16
R331 22K
R332 2.2M
R333 2.2M
C320 4.7/25
R334 10K
Q307
C321 220/16
R335 10K
R337 75
R336 560
R338 10K
C322 47/16
TP301
CN4
12V
FROM 2 8
FM AUDIO

— DIAGRAM (4/4) —


6
5
4
3
2
1
A
B
C
E
F
G
H
TP205
R254 8.2K
R253 9.1K
R257 15K
IC201 NJM4560D
R259 6.8K
R260 6.8K
R258 15K
DA201
C228 270P
R251 820K
R252 8.2K
C227 0.022
C229 270P
C230 270P
R256 82K
R255 82K
C231 0.01
C232 47/16
IC202
R262 27K
R263 27K
R264 12K
R265 12K
C233 0.01
Q201 2SD638RS
R201 680
R205 3.3K
D201 RD5.6EB2
Q203
R203 1.2K
C201 0.01
R207 39K
Q205
R209 1.8K
R213 10
Q207
R215 220
R219 3.9K
R217 1.2K
TH201
R211 OPEN
C203 47/16
C205 47/16
T201 PGZ01859
C209 100P
R221 22K
TP201
1/4 AUD1 BIAS
C207 0.001
Q202 2SD638RS
R202 680
R206 3.3K
C202 0.01
R208 39K
Q206
D202 RD5.6EB2
Q204
R210 1.8K
R214 10
Q208
R204 1.2K
TH202
R212 OPEN
R216 220
R218 1.2K
R220 3.9K
C204 47/16
C206 47/16
T202 PGZ01859
C210 100P
R222 22K
TP202
2/4 AUD2 BIAS
C208 0.001
GND201
L201 3.9
C234 0.01
C235 47/16
C236 0.01
C237 47/16
CN3
9 12V
8
7
6
5 GND
4
3
2
1
12 REC SAFE
18 A2 BIAS CTL
10 A2 B.ADJ.
15 A1 BIAS CTL
11 A1 B.ADJ.
13 AU01 ERS CTL
14 AU01 ERS SW
16 AU02 ERS CTL
17 AU02 ERS SW
FROM 2
FM AUDIO
CN201
1 AU01 ERASE HEAD
2 AU01 ERASE HEAD
3 AU02 ERASE HEAD
4 AU02 ERASE HEAD
TO AE HEAD
C211 0.01
R277 56K
R287 2.7K
R289 56K
R223 47K
R231 2.2K
C213 220P
L203 33
Q229
Q219 2SD638RS
Q223
Q233
Q213
R227 220
C243 0.001
R269 27K
R271 3.9K
R281 2.2
R285 2.2
R279 8.2K
R283 100
R273 560
C239 22/10
R275 1.2K
Q221
R291 8.2K
R225 47K
R229 220
Q217
R233 2.2K
R235 3.3
C217 0.012
R237 3.3
R239 12
Q215 2SB643RS
C215 220P
C219 47/16
Q231
Q225
Q227
R245 2.2K
C221 0.01
TP203
R249 2.2
R267 2.2
C223 0.01
R247 2.2K
C212 0.01
R278 56K
R288 2.7K
R290 56K
R224 47K
R232 2.2K
C214 220P
L204 33
Q224
Q234
Q214
R228 220
C244 0.001
R270 27K
R272 3.9K
R282 2.2
R286 2.2
R280 8.2K
R284 100
R274 560
C240 22/10
R276 1.2K
Q222
R292 8.2K
R226 47K
R230 220
Q218
R234 2.2K
R236 3.3
C218 0.012
R238 3.3
R240 12
Q220 2SD638RS
Q216 2SB643RS
C216 220P
C220 47/16
Q230
Q232
Q226
Q228
R246 2.2K
C222 0.01
TP204
R250 2.2
R268 2.2
C224 0.01
R248 2.2K
2 1 NORMAL AUDIO

4.30 NORMAL AUDIO CIRCUIT BOARD (BR-S800E)

— SOLDER Side —


NORMAL AUDIO
PRK20274 -01-02 NORMAL AUDIO PWB
PRK20274 NORMAL AUDIO PWB ASS'Y
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
CN1
CN2
CN3
CN4
CN5
CN201
IC201
IC202
IC301
IC302
IC303
IC304
GND1
TP202
TP201
TP301
J1
J2
J1G
J2G
RY1

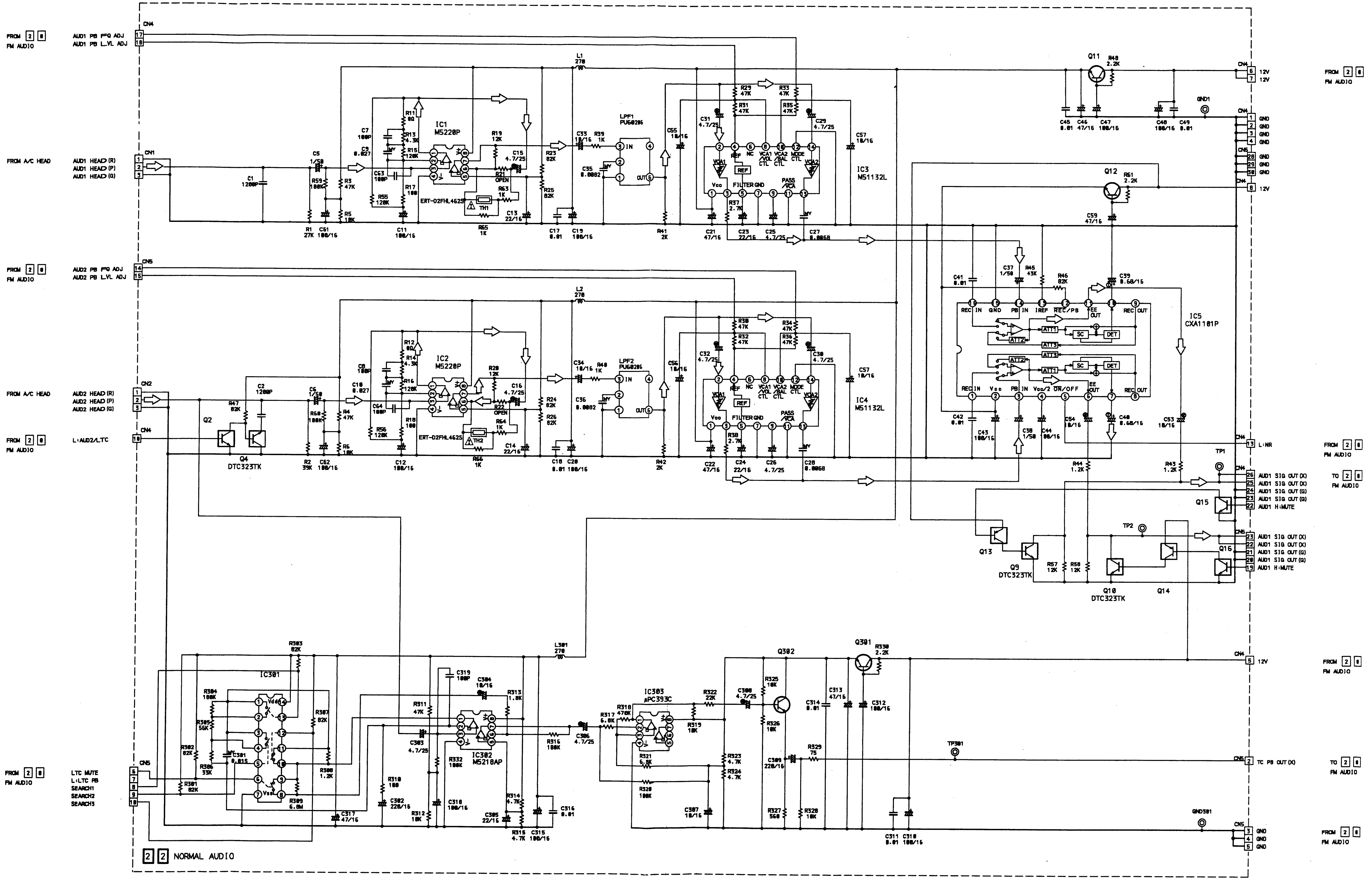
(PRK20274-01-02)

— DC Voltage —

SYMBOL No.		REC	PB
INTEGRATED CIRCUIT			
IC1 8D	1	0.0	0.0
	2	9.4	6.7
	3	0.0	0.0
	4	2.1	2.1
	5	2.1	2.1
	6	2.1	2.1
	7	2.1	2.1
	8	2.1	2.1
	9	0.2	0.0
	10	0.0	5.1
	11	0.0	0.0
	12	0.7	0.0
	13	7.7	7.6
	14	4.9	4.9
	15	4.7	4.8
	16	4.7	4.8
	17	4.9	4.8
	18	0.0	0.0
	19	0.0	0.0
	20	0.0	0.0
	21	0.0	0.0
	22	0.0	0.0
	23	0.5	0.5
	24	3.6	3.6
	25	5.1	0.0
	26	10.1	0.0
	27	10.0	0.0
	28	10.3	10.3
	29	10.3	10.3
	30	10.1	10.0
	31	9.4	9.2
	32	0.0	0.0
IC2 14E	1	0.0	0.0
	2	9.3	6.8
	3	0.0	0.0
	4	2.1	2.1
	5	2.1	2.1
	6	2.1	2.1
	7	2.1	2.1
	8	2.1	2.1
	9	0.0	0.0
	10	0.0	5.1
	11	0.0	0.0
	12	0.0	0.0
	13	7.7	7.6
	14	4.8	4.9
	15	4.8	4.8
	16	4.8	4.8
	17	4.9	4.9
	18	0.0	0.0
	19	0.0	0.0
	20	0.0	0.0
	21	0.0	0.0
	22	0.0	0.0
	23	0.5	0.5
	24	3.6	3.6
	25	5.1	0.0
	26	10.1	0.0
	27	9.1	0.0
	28	10.3	10.3
	29	10.3	10.3
	30	10.1	10.1
	31	9.5	9.3
	32	0.0	0.0
IC3 5F	1	5.2	5.2
	2	10.3	10.3
	3	5.2	5.2
	4	5.3	5.3
	5	0.0	0.0
	6	5.4	5.4
	7	0.4	0.4
	8	5.3	5.3
	9	5.3	5.3
	10	0.4	0.4
	11	5.3	5.3
	12	0.0	5.1
	13	1.2	1.2
	14	5.3	5.3
	15	0.0	0.0
	16	5.3	5.3
IC4 11F	1	5.2	5.2
	2	10.3	10.3
	3	5.2	5.2
	4	5.3	5.3
	5	0.0	0.0
IC4 11F	6	5.4	5.4
	7	0.4	0.4
	8	5.3	5.3
	9	5.3	5.3
	10	0.4	0.4
	11	5.3	5.2
	12	0.0	5.1
	13	1.2	1.2
	14	5.3	5.3
	15	0.0	0.0
	16	5.3	5.3
IC5 6D	1	5.2	5.2
	2	5.2	5.2
	3	5.2	5.2
	4	0.0	0.0
	5	5.2	5.2
	6	5.2	5.2
	7	5.2	5.2
	8	10.3	10.3
IC6 12D	1	5.2	5.2
	2	5.2	5.2
	3	5.2	5.2
	4	0.0	0.0
	5	5.2	5.2
	6	5.2	5.2
	7	5.2	5.2
	8	10.3	10.3
IC7 5B	1	10.3	10.3
	2	4.5	4.4
	3	4.0	4.0
	4	5.5	5.5
	5	10.1	10.1
	6	0.0	0.0
	7	0.0	0.0
	8	3.3	3.2
	9	0.0	0.0
	10	3.4	3.3
	11	0.0	0.0
	12	0.0	0.0
	13	4.1	—
	14	4.6	—
IC8 11C	1	10.3	10.3
	2	4.6	4.5
	3	4.1	4.1
	4	5.5	5.6
	5	10.1	10.2
	6	0.0	0.0
	7	0.0	0.0
	8	3.3	5.3
	9	0.1	0.0
	10	3.6	5.3
	11	0.0	0.0
	12	0.0	0.0
	13	4.1	4.1
	14	4.5	4.3
IC9 5E	1	10.3	10.2
	2	4.5	4.5
	3	4.1	4.0
	4	5.6	5.5
	5	10.2	10.1
	6	0.0	0.0
	7	0.0	0.0
	8	2.6	2.5
	9	0.0	0.0
	10	3.2	3.2
	11	0.0	0.0
	12	0.0	0.0
	13	4.1	4.1
	14	4.5	4.3
IC10 10F	1	10.3	10.2
	2	4.5	4.5
	3	4.0	4.0
	4	5.5	5.5
	5	10.0	10.1
	6	0.0	0.0
	7	0.0	0.0
	8	2.4	2.4
	9	0.0	0.0
	10	3.2	3.2
	11	0.0	0.0
	12	0.0	0.0
	13	4.0	4.0
	14	4.5	4.5
IC11 10D	1	4.1	4.1
	2	—	—
	3	5.1	5.1
	4	5.1	5.1
	5	5.1	5.1
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	10.2	10.2
	10	10.2	10.2
	11	10.2	10.2
	12	4.1	4.1
	13	4.1	4.1
	14	4.1	4.1
	15	4.1	4.1
	16	10.3	10.3
IC201 4F	1	6.0	6.0
	2	5.3	5.6
	3	6.1	6.1
	4	0.0	0.0
	5	6.0	6.0
	6	6.0	6.0
	7	6.0	6.0
	8	12.0	12.0
IC202 4E	1	6.0	6.0
	2	6.0	6.2
	3	6.0	6.2
	4	0.0	0.0
	5	5.9	6.0
	6	6.3	6.3
	7	6.2	6.2
	8	12.0	12.0
IC301 13C	1	5.2	5.1
	2	5.2	5.1
	3	5.1	5.1
	4	5.2	5.1
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	—	—
	9	5.1	5.1
	10	5.2	5.1
	11	5.1	5.1
	12	10.2	10.2
	13	10.2	10.2
	14	10.3	10.3
IC302 14C	1	5.1	5.1
	2	5.2	5.1
	3	5.1	5.1
	4	0.0	0.0
	5	5.1	5.1
	6	5.1	5.1
	7	5.1	5.1
	8	10.3	10.3
IC303 15A	1	5.2	5.2
	2	5.2	5.2
	3	5.2	5.2
	4	0.0	0.0
	5	5.1	5.1
	6	5.2	5.1
	7	5.2	5.1
	8	10.3	10.3
IC304 11A	1	0.1	0.1
	2	—	—
	3	—	—
	4	0.0	0.0
	5	0.4	0.4
	6	0.4	0.4
	7	0.0	0.0
	8	12.0	12.0
TRANSISTOR			
Q1 6A	B	10.9	10.9
	C	12.0	12.1
	E	10.3	10.2
Q2 10C	B	0.1	0.1
	C	10.2	10.0
	E	0.0	0.0
Q3 10C	B	0.0	0.0
	C	10.2	10.2
	E	0.0	0.0
Q4 15C	B	0.0	0.0
	C	12.0	12.0
	E	0.0	0.0
Q5 14C	B	0.8	0.0
	C	0.0	0.0
	E	0.0	—
Q6 7C	B	5.1	5.1
	C	0.0	0.0
	E	0.0	0.0
Q7 7E	B	0.0	0.0
	C	11.9	12.0
	E	0.0	0.0
Q8 12E	B	0.0	0.0
	C	11.9	12.0
	E	0.0	0.0
Q9 6E	B	11.9	12.0
	C	0.0	0.0
	E	12.0	12.0
Q10 12E	B	11.9	12.0
	C	0.0	0.0
	E	12.0	12.0
Q11 7F	B	0.5	0.0
	C	0.0	0.0
	E	—	0.0
Q12 12F	B	0.5	0.0
	C	0.0	0.0
	E	—	0.0
Q13 7C	B	0.0	0.0
	C	—	0.1
	E	0.0	0.0
Q14 13D	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q15 6E	B	0.0	0.0
	C	11.9	11.7
	E	0.0	0.0
Q16 11E	B	0.0	0.0
	C	11.9	11.4
	E	0.0	0.0
Q17 6E	B	11.9	11.9
	C	0.0	0.0
	E	12.0	12.0
Q18 11E	B	11.9	12.0
	C	0.0	0.0
	E	12.0	12.0
Q19 6E	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q20 11E	B	0.0	0.5
	C	0.0	0.0
	E	0.0	0.0
Q21 7E	B	4.8	4.8
	C	0.0	0.0
	E	0.0	0.0
Q22 14F	B	4.8	4.8
	C	0.0	0.0
	E	0.0	0.0
Q201 2E	B	9.8	9.8
	C	12.0	12.0
	E	9.1	9.2
Q202 2F	B	8.4	8.5
	C	12.0	12.0
	E	9.1	9.1
Q203 3D	B	3.6	3.6
	C	0.0	0.0
	E	4.3	4.3

SYMBOL No.		REC	PB
Q204 3F	B	2.8	2.8
	C	0.0	0.0
	E	3.5	3.5
Q205 2E	B	0.3	0.6
	C	9.1	9.2
	E	0.3	1.8
Q206 2G	B	0.3	0.5
	C	8.4	8.5
	E	0.3	1.7
Q207 2E	B	0.7	0.0
	C	0.1	1.8
	E	0.0	0.0
Q208 3F	B	0.7	0.0
	C	0.1	1.7
	E	0.0	0.0
Q213 3C	B	6.0	6.0
	C	0.0	0.0
	E	6.0	6.7
Q214 3D	B	6.0	6.0
	C	0.0	0.0
	E	6.0	6.7
Q215 3B	B	6.1	6.0
	C	0.0	0.0
	E	6.1	5.4
Q216 3D	B	6.1	6.0
	C	0.0	0.0
	E	6.1	5.4
Q217 3B	B	6.0	6.0
	C	11.9	12.0
	E	6.1	5.4
Q218 3C	B	6.0	6.0
	C	11.9	12.0
	E	6.1	5.4
Q219 2C	B	6.2	6.0
	C	11.9	12.0
	E	6.0	6.7
Q220 2D	B	6.1	6.0
	C	11.9	12.0
	E	6.0	6.7
Q225 1B	B	0.8	0.8
	C	0.1	0.0
	E	0.1	0.0
Q226 1D	B	0.8	0.0
	C	0.1	0.0
	E	0.1	0.0
Q227 1B	B	0.8	0.0
	C	0.1	0.0
	E	0.1	0.0
Q228 1D	B	0.8	0.4
	C	0.1	0.0
	E	0.1	—
Q229 2C	B	0.1	12.0
	C	11.9	0.5
	E	12.0	12.0
Q230 2C	B	0.1	12.0
	C	11.9	0.5
	E	12.0	12.0
Q231 2B	B	5.1	0.0
	C	0.1	12.0
	E	0.0	0.0
Q232 1C	B	5.1	0.0
	C	0.1	12.0
	E	0.0	0.0
Q302 15B	B	0.1	0.1
	C	10.2	10.2
	E	10.3	10.2
Q303 15B	B	10.2	10.2
	C	0.0	0.0
	E	0.0	0.0
Q305 12A	B	5.1	0.0
	C	0.0	1.1
	E	0.0	0.0
Q306 13A	B	0.0	1.1
	C	0.0	0.0
	E	0.0	0.0
Q307 10A	B	5.8	5.8
	C	12.0	12.0
	E	5.1	5.2
CONNECTOR			
CN1	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
CN2	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
CN3	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	12.0	12.0
	7	12.0	12.0
	8	12.0	12.0
	9	12.0	12.0
	10	2.8	2.8
	11	3.6	3.6
	12	—	0.0
	13	5.0	0.0
	14	5.1	0.0
	15	5.0	0.0
	16	5.0	0.0
	17	5.1	0.0
	18	5.0	0.0
CN4	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	12.0	12.0
	6	12.0	12.0
	7	12.0	12.0
	8	12.0	12.0
	9	0.0	0.0
	10	0.0	0.0
	11	0.0	0.0
	12	5.1	5.1
	13	0.0	0.0
	14	4.8	4.8
	15	5.1	0.0
	16	0.0	5.1
	17	1.2	1.2
	18	1.0	1.0
	19	0.0	0.0
	20	1.0	1.0
	21	2.3	2.3
	22	0.0	0.0
	23	0.0	0.0
	24	0.0	0.0
	25	0.0	0.1
	26	0.0	0.1
	27	0.0	0.0
	28	0.0	0.0
	29	5.6	5.6
	30	5.6	5.6
CN5	1	—	—
	2	0.0	0.1
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.1	0.1
	8	10.2	10.1
	9	0.1	0.1
	10	10.2	10.0
	11	4.8	0.0
	12	5.1	0.0
	13	0.0	0.0
	14	1.8	1.8
	15	1.0	1.0
	16	0.0	0.0
	17	1.0	1.0
	18	2.2	2.2
	19	0.0	0.0
	20	0.0	0.0
	21	0.0	0.0
	22	0.0	0.1
	23	0.0	0.0
	24	0.0	0.0
	25	0.0	0.0
	26	5.6	5.6
	27	5.6	5.6
	28	0.0	0.0
	29	0.0	0.0
	30	0.0	0.0
SUB BOARD			
TRANSISTOR			
Q1	B	1.4	1.5
	C	11.9	12.0
	E	1.2	2.3
Q2	B	1.5	1.5
	C	6.8	12.0
	E	1.2	2.3
Q3	B	0.7	0.0
	C	0.1	2.3
	E	0.0	0.0
Q4	B	1.4	1.5
	C	11.9	12.0
	E	1.2	2.3
Q5	B	1.5	1.6
	C	6.8	12.0
	E	1.2	2.3
Q6	B	0.7	0.0
	C	0.1	2.3
	E	0.0	0.0

4.31 NORMAL AUDIO SCHEMATIC DIAGRAM (BR-S500E)

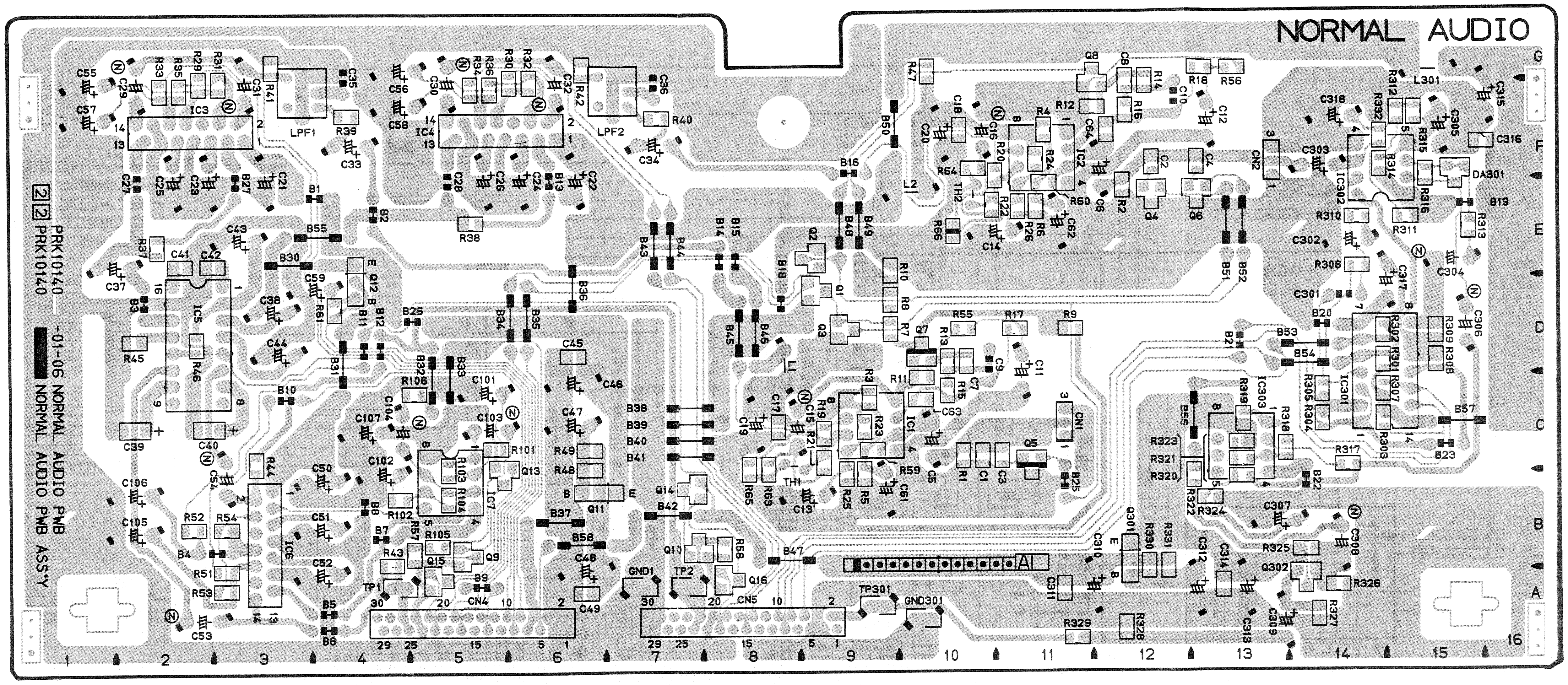

FROM 2 8 FM AUDIO
AUD1 PB FRQ ADJ
AUD1 PB L.VL ADJ
FROM A/C HEAD
AUD1 HEAD (R)
AUD1 HEAD (P)
AUD1 HEAD (G)
CN1
CN4
L1 270
IC1 M5220P
ERT-D2FHL462S
TH1
LPF1 PU60286
IC3 M51132L
VCA1 /VOL CTL
VCA2 /BAL CTL
MODE CTL
FILTER GND
PASS /VCA
REF
Q11
Q12
R48 2.2K
R51 2.2K
GND1
12V
GND
AUD2 PB FRQ ADJ
AUD2 PB L.VL ADJ
CN5
CN2
AUD2 HEAD (R)
AUD2 HEAD (P)
AUD2 HEAD (G)
L:AUD2/LTC
Q2
Q4 DTC323TK
L2 270
IC2 M5220P
TH2
LPF2 PU60286
IC4 M51132L
IC5 CXA1101P
REC IN
PB IN
IREF
REC/PB
EE OUT
REC OUT
Vcc/2
ON/OFF
ATT1
ATT2
ATT3
SC
DET
L:NR
TP1
AUD1 SIG OUT (X)
AUD1 SIG OUT (G)
AUD1 H:MUTE
TO 2 8 FM AUDIO
Q15
TP2
Q13
Q9 DTC323TK
Q10 DTC323TK
Q14
Q16
L301 270
IC301
Vdd
Vss
IC302 M5218AP
IC303 µPC393C
Q302
Q301
R330 2.2K
TP301
TC PB OUT (X)
GND301
LTC MUTE
L:LTC PB
SEARCH1
SEARCH2
SEARCH3
2 2 NORMAL AUDIO

NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SD973A
ALL NPN DIGITAL TRANSISTORS ARE DTC124EK
ALL PNP DIGITAL TRANSISTORS ARE DTA124EK
ALL DIODES ARE DA204K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN µH.

ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
NON-POLARIZED
TANTALUM
CERAMIC
MYLAR

4.32 NORMAL AUDIO CIRCUIT BOARD (BR-S500E)

— SOLDER Side —


NORMAL AUDIO
PRK10140 -01-06 NORMAL AUDIO PWB
PRK10140 NORMAL AUDIO PWB ASS'Y
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC301
IC302
IC303
LPF1
LPF2
CN1
CN2
CN4
CN5
TP1
TP2
TP301
GND1
GND301
DA301
L301
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G

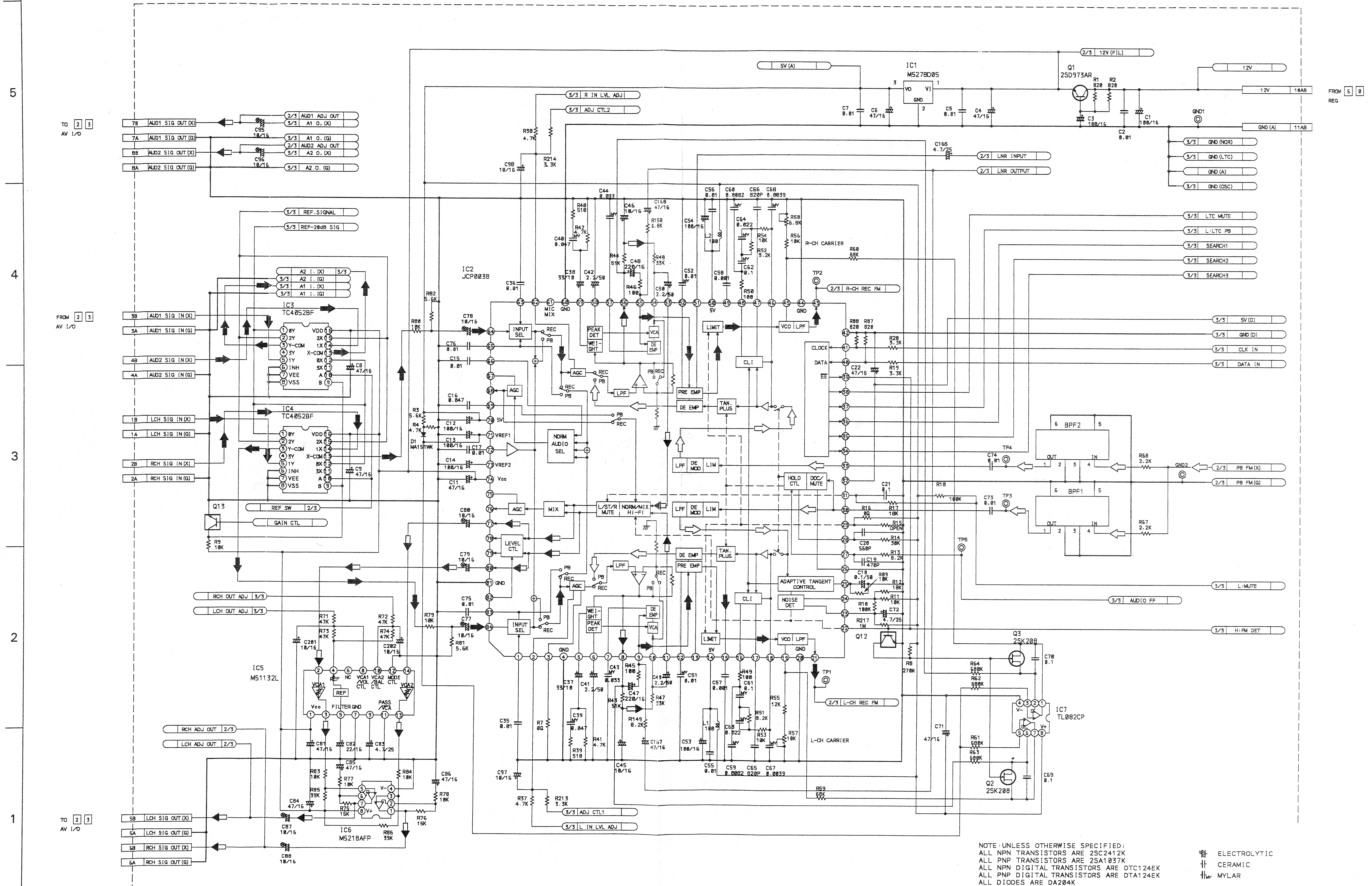
(PRK10140-01-06)

— DC Voltage —

SYMBOL	No.	PB	REC
IC			
IC1 9C	1	5.5	
	2	5.5	
	3	5.5	
	4	0.0	
	5	5.4	
	6	5.4	
	7	5.4	
	8	10.9	
IC2 11F	1	5.5	
	2	5.6	
	3	5.5	
	4	0.0	
	5	5.4	
	6	5.4	
	7	5.4	
	8	10.9	
IC3 2F	1	10.9	
	2	4.8	
	3	4.3	
	4	5.6	
	5	10.7	
	6	0.0	
	7	0.0	
	8	3.3	
	9	0.0	
	10	3.2	
IC3 2F	11	0.0	
	12	0.0	
	13	4.3	
	14	4.8	
IC4 5F	1	10.9	
	2	4.8	
	3	4.3	
	4	5.5	
	5	10.8	
	6	0.0	
	7	0.0	
	8	3.2	
	9	0.0	
	10	3.8	
	11	0.0	
	12	0.0	
	13	4.3	
	14	4.8	
IC5 2D	1	5.8	
	2	11.4	
	3	5.8	
	4	5.8	
	5	0.0	
	6	5.9	
	7	0.5	
	8	5.9	
	9	5.9	
	10	0.4	
IC5 2D	11	6.0	
	12	11.3	
	13	1.2	
	14	5.8	
	15	0.0	
	16	5.8	
IC301 14C	1	5.5	
	2	5.5	
	3	5.5	
	4	5.5	
	5	0.0	
	6	0.0	
	7	0.0	
	8	5.4	
	9	5.5	
	10	5.5	
	11	5.5	
	12	10.8	
	13	10.8	
	14	10.9	
IC302 14F	1	5.5	
	2	5.5	
	3	5.5	
	4	0.0	
	5	5.4	
	6	5.5	
	7	5.4	
	8	10.9	
IC303 13C	1	0.1	
	2	—	
	3	—	
	4	0.0	
	5	0.4	
	6	0.4	
	7	0.0	
	8	11.3	
TRANSISTOR			
Q2 9E	B	0.0	
	C	0.9	
	E	0.0	
Q4 12E	B	0.9	
	C	0.0	
	E	0.0	
Q9 5B	B	0.0	
	C	0.0	
	E	0.0	
Q10 8B	B	0.0	
	C	0.0	
	E	0.0	
Q11 6B	B	11.6	
	C	12.1	
	E	10.9	
Q12 4D	B		12.0
	C		12.1
	E		11.4
Q301 12B	B		11.9
	C		12.1
	E		11.3
Q302 14A	B		5.4
	C		11.3
	E		4.8
CONNECTOR			
CN1	1		0.0
	2		0.0
	3		0.0
CN2	1		0.0
	2		0.0
	3		0.0
CN4	1	0.0	
	2	0.0	
	3	0.0	
	4	0.0	
	5	12.1	
	6	12.1	
	7	12.1	
	8	12.1	
	9	0.0	
	10	0.0	
	11	0.0	
	12	5.1	
	13	0.0	
	14	0.0	
	15	0.0	
	16	5.1	
	17	0.8	
	18	1.0	
	19	0.0	
	20	5.1	
	21	1.4	
	22	0.0	
	23	0.0	
	24	0.0	
	25	0.0	
	26	0.0	
	27	0.0	
	28	0.0	
	29	0.0	
	30	0.0	
CN5	1	0.0	
	2	0.0	
	3	0.0	
	4	0.0	
	5	0.0	
	6	0.0	
	7	0.0	
	8	10.8	
	9	0.0	
	10	10.8	
	11	0.0	
	12	0.0	
	13	5.1	
	14	2.0	
	15	0.9	
	16	0.0	
	17	5.1	
	18	1.3	
	19	0.0	
	20	0.0	
	21	0.0	
	22	0.0	
	23	0.0	
	24	0.0	
	25	0.0	
	26	0.0	
	27	0.0	
	28	0.0	
	29	0.0	
	30	0.0	

4.33 FM AUDIO SCHEMATIC DIAGRAM

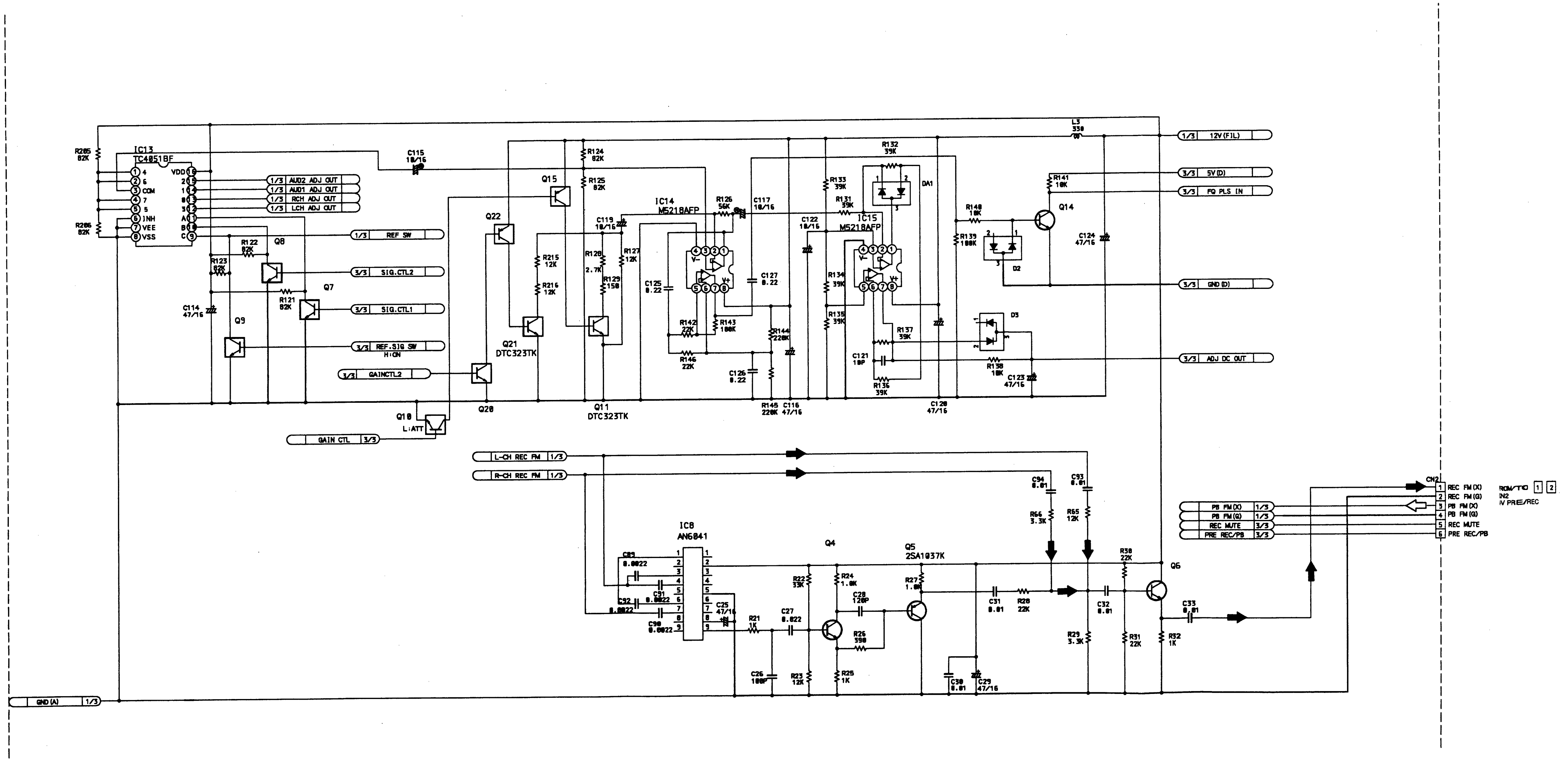
— DIAGRAM (1/3) —


6
5
4
3
2
1
A
B
C
E
F
G
H
TO 2 3 AV I/O
FROM 2 3 AV I/O
TO 2 3 AV I/O
FROM 6 8 REG
7B AUD1 SIG OUT(X)
7A AUD1 SIG OUT(G)
8B AUD2 SIG OUT(X)
8A AUD2 SIG OUT(G)
2/3 AUD1 ADJ OUT
3/3 A1 O.(X)
3/3 A1 O.(G)
2/3 AUD2 ADJ OUT
3/3 A2 O.(X)
3/3 A2 O.(G)
C95 10/16
C96 10/16
3/3 REF.SIGNAL
3/3 REF-20dB SIG
A2 I.(X) 3/3
3/3 A2 I.(G)
3/3 A1 I.(X)
3/3 A1 I.(G)
IC3 TC4052BF
IC4 TC4052BF
3B AUD1 SIG IN(X)
3A AUD1 SIG IN(G)
4B AUD2 SIG IN(X)
4A AUD2 SIG IN(G)
1B LCH SIG IN(X)
1A LCH SIG IN(G)
2B RCH SIG IN(X)
2A RCH SIG IN(G)
Q13
REF SW 2/3
GAIN CTL
R9 10K
RCH OUT ADJ 3/3
LCH OUT ADJ 3/3
IC5 M51132L
RCH ADJ OUT 2/3
LCH ADJ OUT 2/3
IC6 M5218AFP
5B LCH SIG OUT(X)
5A LCH SIG OUT(G)
6B RCH SIG OUT(X)
6A RCH SIG OUT(G)
C87 10/16
C88 10/16
IC2 JCP0038
3/3 R IN LVL ADJ
3/3 ADJ CTL2
3/3 ADJ CTL1
3/3 L IN LVL ADJ
R38 4.7K
R214 3.3K
C98 10/16
R37 4.7K
R213 3.3K
INPUT SEL
AGC
NORM AUDIO SEL
MIX
L/ST/R MUTE
NORM/MIX HI-FI
LEVEL CTL
PEAK DET
WEIGHT
DE EMP
PRE EMP
VCA
LPF
LIMIT
CLI
VCO
TAN. PLUS
LIM
DE MOD
HOLD CTL
DOC/MUTE
ADAPTIVE TANGENT CONTROL
NOISE DET
CLOCK
DATA
EE
R-CH CARRIER
L-CH CARRIER
TP1
TP2
TP3
TP4
TP5
2/3 R-CH REC FM
2/3 L-CH REC FM
IC1 M5278D05
5V(A)
Q1 2SD973AR
2/3 12V(FIL)
12V
12V 10A8
GND(A) 11A8
GND1
3/3 GND(NOR)
3/3 GND(LTC)
GND(A)
3/3 GND(OSC)
C165 4.7/25
2/3 LNR INPUT
2/3 LNR OUTPUT
3/3 LTC MUTE
3/3 L:LTC PB
3/3 SEARCH1
3/3 SEARCH2
3/3 SEARCH3
3/3 5V(D)
3/3 GND(D)
3/3 CLK IN
3/3 DATA IN
BPF2
BPF1
GND2
2/3 PB FM(X)
2/3 PB FM(G)
3/3 L:MUTE
3/3 AUDIO FF
3/3 HiFM DET
Q12
Q3 2SK208
Q2 2SK208
IC7 TL082CP
D1 MA151WK

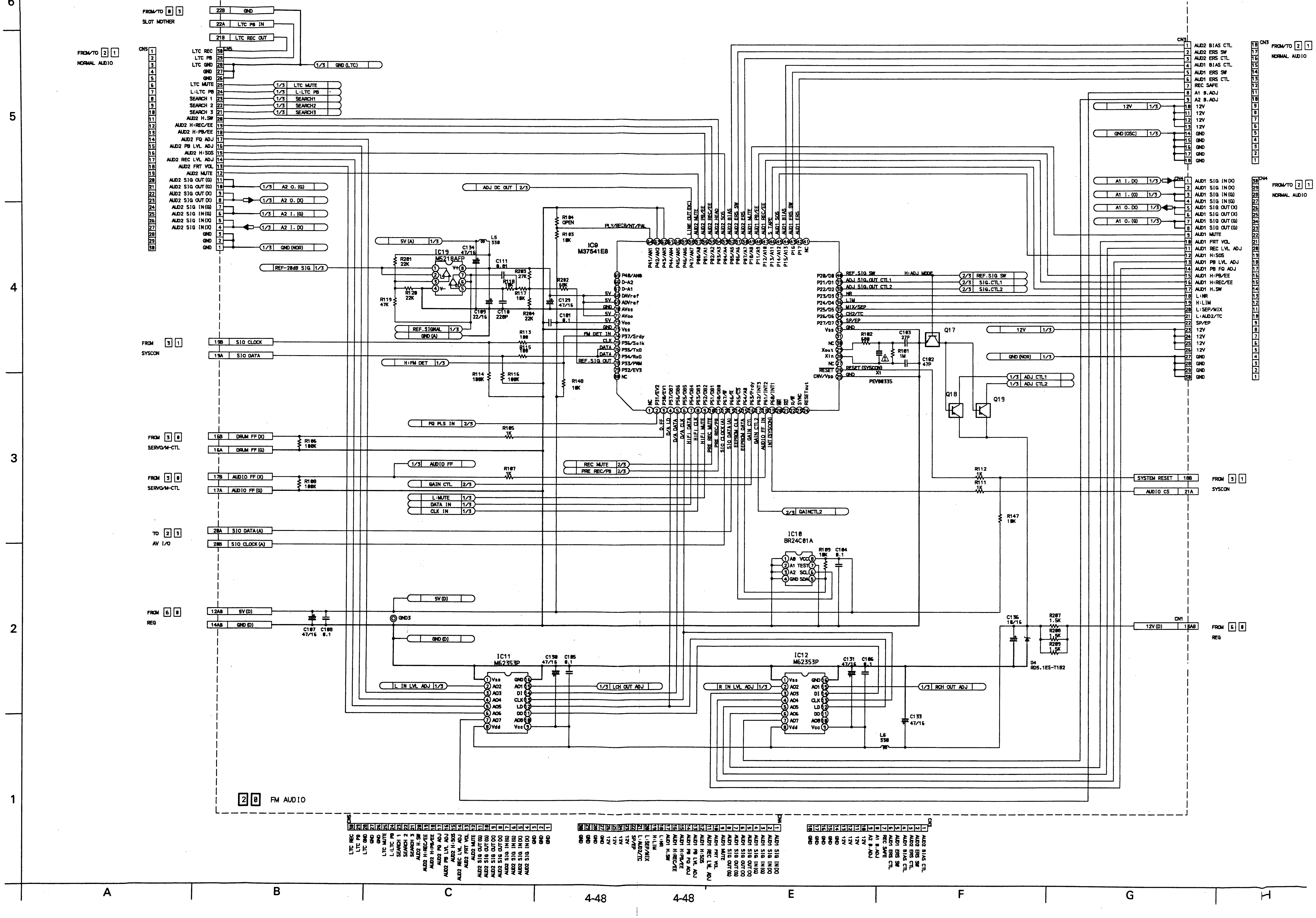
NOTE:UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL NPN DIGITAL TRANSISTORS ARE DTC124EK
ALL PNP DIGITAL TRANSISTORS ARE DTA124EK
ALL DIODES ARE DA204K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN uF.

⫩	ELECTROLYTIC
⫲	CERAMIC
⫲	MYLAR

— DIAGRAM (2/3) —


IC13
TC4051BF
R205 82K
R206 82K
1 4
2 6
3 COM
4 7
5 5
6 INH
7 VEE
8 VSS
VDD 16
2 15
1 14
0 13
3 12
A 11
B 10
C 9
1/3 AUD2 ADJ OUT
1/3 AUD1 ADJ OUT
1/3 RCH ADJ OUT
1/3 LCH ADJ OUT
1/3 REF SW
3/3 SIG.CTL2
3/3 SIG.CTL1
3/3 REF.SIG SW H:ON
3/3 GAINCTL2
GAIN CTL 3/3
R122 82K
R123 82K
R121 82K
C114 47/16
Q8
Q7
Q9
Q10 L:ATT
Q20
Q22
Q21 DTC323TK
Q15
Q11 DTC323TK
C115 10/16
R124 82K
R125 82K
R215 12K
R216 12K
C119 10/16
R128 2.7K
R129 150
R127 12K
IC14 M5218AFP
R126 56K
C117 10/16
C125 0.22
C127 0.22
R142 22K
R143 100K
R146 22K
R144 220K
C126 0.22
R145 220K
C116 47/16
V- V+
C122 10/16
R133 39K
R131 39K
R132 39K
IC15 M5218AFP
DA1
R134 39K
R135 39K
R137 39K
C121 10P
R136 39K
C120 47/16
R140 10K
R139 100K
D2
Q14
R141 10K
C124 47/16
D3
R138 10K
C123 47/16
L3 330
1/3 12V (FIL)
3/3 5V (D)
3/3 FQ PLS IN
3/3 GND (D)
3/3 ADJ DC OUT
L-CH REC FM 1/3
R-CH REC FM 1/3
IC8 AN6041
C89 0.0022
C91 0.0022
C92 0.0022
C90 0.0022
C25 47/16
R21 1K
C27 0.022
C26 100P
Q4
R22 33K
R23 12K
R24 1.0K
R25 1K
C28 120P
R26 390
Q5 2SA1037K
R27 1.0K
C30 0.01
C29 47/16
C31 0.01
R28 22K
C94 0.01
C93 0.01
R66 3.3K
R65 12K
R29 3.3K
C32 0.01
R30 22K
R31 22K
Q6
R32 1K
C33 0.01
GND (A) 1/3
PB FM (X) 1/3
PB FM (G) 1/3
REC MUTE 3/3
PRE REC/PB 3/3
CN2
1 REC FM (X)
2 REC FM (G)
3 PB FM (X)
4 PB FM (G)
5 REC MUTE
6 PRE REC/PB
ROM/TO 1 2
CN2
V PRE/REC

— DIAGRAM (3/3) —



6
5
4
3
2
1
A
B
C
D
E
F
G
H
FROM/TO 8 3 SLOT MOTHER
FROM/TO 2 1 NORMAL AUDIO
CN5
LTC REC
LTC PB
LTC GND
GND
LTC MUTE
L:LTC PB
SEARCH 1
SEARCH 2
SEARCH 3
AUD2 H.SW
AUD2 H:REC/EE
AUD2 H:PB/EE
AUD2 FQ ADJ
AUD2 PB LVL ADJ
AUD2 H:SOS
AUD2 REC LVL ADJ
AUD2 FRT VOL
AUD2 MUTE
AUD2 SIG OUT(G)
AUD2 SIG OUT(X)
AUD2 SIG IN(G)
AUD2 SIG IN(X)
22B GND
22A LTC PB IN
21B LTC REC OUT
1/3 GND(LTC)
1/3 LTC MUTE
1/3 L:LTC PB
1/3 SEARCH1
1/3 SEARCH2
1/3 SEARCH3
1/3 A2 O.(G)
1/3 A2 O.(X)
1/3 A2 I.(G)
1/3 A2 I.(X)
1/3 GND(NOR)
REF-20dB SIG 1/3
ADJ DC OUT 2/3
5V(A) 1/3
IC19 M5218AFP
IC9 M37541E8
PLY/RECB/NT/PAL
R104 OPEN
R103 10K
R201 22K
R120 22K
R119 47K
C134 47/10
L5 330
C111 0.01
R203 27K
R118 10K
R117 10K
C109 22/16
C110 220P
R204 22K
R202 68K
C129 47/16
C101 0.1
REF.SIGNAL 1/3
GND(A)
FROM 3 1 SYSCON
19B SIO CLOCK
19A SIO DATA
R113 100
R115 100
H:FM DET 1/3
R114 100K
R116 100K
R140 10K
FM DET IN
CLK
DATA
REF.SIG OUT
P40/AN8
D-A2
D-A1
DAVref
ADVref
AVss
AVcc
Vcc
Vss
P37/Srdy
P36/Sclk
P35/TxD
P34/RxD
P33/PWM
P32/EV3
NC
P41/AN1
P42/AN2
P43/AN3
P44/AN4
P45/AN5
P46/AN6
P47/AN7
P00/AN0
P01/A1
P02/A2
P03/A3
P04/A4
P05/A5
P06/A6
P07/A7
P10/A8
P11/A9
P12/A10
P13/A11
P14/A12
P15/A13
P16
P17
P20/D0
P21/D1
P22/D2
P23/D3
P24/D4
P25/D5
P26/D6
P27/D7
Xout
Xin
RESET
CNVss
REF.SIG SW
ADJ SIG.OUT CTL1
ADJ SIG.OUT CTL2
NR
LIM
MIX/SEP
CH2/TC
SP/EP
RESET(SYSCON)
H:ADJ MODE
2/3 REF.SIG SW
2/3 SIG.CTL1
2/3 SIG.CTL2
R102 680
C103 27P
R101 1M
C102 47P
X1 PEV00335
Q17
Q18
Q19
12V 1/3
GND(NOR) 1/3
1/3 ADJ CTL1
1/3 ADJ CTL2
D.FF
A.FF
D/A LD
D/A DATA
D/A CLK
HIFI CLK
HIFI DATA
HIFI MUTE
PRE REC MUTE
PRE REC/PB
SIO CLOCK(A)
SIO DATA(A)
EEPROM CLK
EEPROM DATA
GAIN CTL
GAIN CTL2
AUDIO FF IN
INT(SYSCON)
FQ PLS IN 2/3
R105 1K
FROM 3 8 SERVO/M-CTL
16B DRUM FF(X)
16A DRUM FF(G)
R106 100K
17B AUDIO FF(X)
17A AUDIO FF(G)
R108 100K
1/3 AUDIO FF
R107 1K
GAIN CTL 2/3
L:MUTE 1/3
DATA IN 1/3
CLK IN 1/3
REC MUTE 2/3
PRE REC/PB 2/3
2/3 GAINCTL2
TO 2 3 AV I/O
20A SIO DATA(A)
20B SIO CLOCK(A)
IC10 BR24C01A
A0 VCC
A1 TEST
A2 SCL
GND SDA
R109 10K
C104 0.1
R112 1K
R111 1K
R147 10K
SYSTEM RESET 18B
AUDIO CS 21A
FROM 3 1 SYSCON
FROM 6 8 REG
12AB 5V(D)
14AB GND(D)
C107 47/16
C108 0.1
5V(D)
GND3
GND(D)
IC11 M62353P
IC12 M62353P
C130 47/16
C105 0.1
C131 47/16
C106 0.1
Vss
AO2
AO3
AO4
AO5
AO6
AO7
Vdd
GND
AO1
DI
CLK
LD
DO
AO8
Vcc
L IN LVL ADJ 1/3
1/3 LCH OUT ADJ
R IN LVL ADJ 1/3
1/3 RCH OUT ADJ
C133 47/16
L6 330
C136 10/16
R207 1.5K
R208 1.5K
R209 1.5K
D4 RD5.1ES-T1B2
12V(D)
CN1 18AB
FROM 6 8 REG
CN3
AUD2 BIAS CTL
AUD2 ERS SW
AUD2 ERS CTL
AUD1 BIAS CTL
AUD1 ERS SW
AUD1 ERS CTL
REC SAFE
A1 B.ADJ
A2 B.ADJ
12V
GND
12V 1/3
GND(OSC) 1/3
FROM/TO 2 1 NORMAL AUDIO
CN4
AUD1 SIG IN(X)
AUD1 SIG IN(G)
AUD1 SIG OUT(X)
AUD1 SIG OUT(G)
AUD1 MUTE
AUD1 FRT VOL
AUD1 REC LVL ADJ
AUD1 H:SOS
AUD1 PB LVL ADJ
AUD1 PB FQ ADJ
AUD1 H:PB/EE
AUD1 H:REC/EE
AUD1 H.SW
L:NR
H:LIM
L:SEP/MIX
L:AUD2/TC
SP/EP
A1 I.(X) 1/3
A1 I.(G) 1/3
A1 O.(X) 1/3
A1 O.(G) 1/3
FROM/TO 2 1 NORMAL AUDIO
2 0 FM AUDIO

— DC Voltage (1/2) —

SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC1 10D	1	11.0	11.0
	2	0.0	0.0
	3	5.0	5.0
IC2 9B	1	2.5	2.5
	2	3.0	3.0
	3	0.0	0.0
	4	0.0	0.0
	5	2.6	2.5
	6	1.4	1.4
	7	2.5	2.5
	8	2.6	2.5
	9	2.5	2.5
	10	2.5	2.5
	11	2.5	2.5
	12	2.5	2.5
	13	2.5	2.5
	14	5.0	5.0
	15	—	2.5
	16	0.0	2.5
	17	—	2.5
	18	—	2.0
	19	2.4	2.4
	20	0.0	0.0
	21	2.0	0.6
	22	0.1	0.2
	23	3.6	0.1
	24	3.5	3.3
	25	2.0	3.4
	26	0.0	0.0
	27	—	—
	28	5.0	0.1
	29	5.0	5.0
	30	0.0	2.5
	31	5.1	0.8
	32	5.1	5.1
	33	0.0	2.5
	34	10.2	9.9
	35	0.1	0.1
	36	10.2	10.2
	37	0.1	0.1
	38	0.0	0.0
	39	0.1	0.2
	40	0.1	0.1
	41	0.1	0.1
	42	0.0	0.0
	43	2.0	—
	44	0.0	0.0
	45	2.4	2.4
	46	2.3	—
	47	0.0	2.5
	48	0.0	2.5
	49	0.0	2.6
	50	5.0	5.0
	51	2.6	2.5
	52	2.6	2.5
	53	2.5	2.5
	54	2.5	2.5
	55	2.6	2.5
	56	2.6	2.5
	57	2.5	2.5
	58	1.4	1.4
	59	2.6	2.5
	60	0.0	0.0
	61	2.9	2.9
	62	2.7	2.7
	63	2.5	2.6
	64	2.5	2.8
	65	2.5	2.5
	66	2.5	2.5
	67	2.8	2.8
	68	2.2	2.2
	69	2.5	2.5
	70	5.0	5.0
	71	2.6	2.5
	72	2.5	2.5
	73	5.8	5.7
	74	11.0	11.0
	75	0.0	—
	76	5.8	5.7
	77	5.7	5.6
	78	5.7	5.7
	79	5.7	5.7
	80	5.7	5.6
	81	0.0	0.0
	82	0.0	—
	83	2.5	2.5
	84	2.5	2.5
IC3 11D	1	2.4	2.4
	2	1.9	1.9
	3	5.6	5.6
	4	—	—
	5	5.6	5.6
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	—	—
	11	—	—
	12	2.4	2.4
	13	5.6	5.6
	14	5.6	5.6
	15	1.9	1.9
	16	11.0	11.0
IC4 12D	1	2.4	2.4
	2	1.9	1.9
	3	5.3	5.3
	4	—	—
	5	5.3	5.3
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	—	—
	11	—	—
	12	2.4	2.4
	13	5.2	5.2
	14	5.2	5.3
	15	1.9	1.9
	16	11.0	11.0
IC5 11B	1	11.0	11.0
	2	—	—
	3	4.4	4.4
	4	5.6	5.6
	5	10.6	10.6
	6	—	—
	7	0.0	0.0
	8	3.3	3.4
	9	0.0	0.0
	10	3.3	3.3
	11	0.0	0.0
	12	0.0	0.0
	13	4.4	4.4
	14	4.7	4.6
IC6 12B	1	5.7	5.7
	2	5.7	5.7
	3	5.7	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.7	5.7
	7	5.7	5.7
	8	11.0	11.0
IC7 7D	1	2.6	2.6
	2	2.6	2.6
	3	2.0	—
	4	0.0	0.0
	5	2.0	—
	6	2.6	2.5
	7	2.6	2.5
	8	5.0	5.0
IC8 5A	1	8.2	8.0
	2	11.0	11.0
	3	2.6	2.6
	4	7.5	7.4
	5	0.0	0.0
	6	7.5	7.5
	7	2.6	2.6
	8	7.5	7.5
	9	8.0	8.0
IC9	1	—	—
	2	—	5.1
	3	—	—
	4	0.0	0.1
	5	0.2	0.2
	6	4.5	4.5
	7	0.0	0.0
	8	0.1	0.1
	9	5.1	0.0
	10	0.0	5.1
	11	5.0	0.0
	12	0.0	0.0
	13	0.0	0.0
	14	5.1	5.1
	15	5.1	5.1
	16	5.0	5.1
	17	0.0	0.0
	18	2.5	—
	19	3.4	3.4
	20	—	4.9
	21	—	3.2
	22	—	4.7
	23	—	1.3
	24	0.0	0.0
	25	0.0	0.0
	26	5.1	5.1
	27	0.0	0.0
	28	2.5	2.5
	29	2.2	2.5
	30	0.0	0.0
	31	2.5	2.5
	32	0.0	0.0
	33	0.0	0.0
	34	0.0	0.0
	35	0.0	0.0
	36	5.1	5.1
	37	0.0	0.0
	38	0.0	0.0
	39	0.0	0.0
	40	0.0	0.0
	41	—	0.0
	42	5.0	0.0
	43	5.0	0.0
	44	5.0	0.0
	45	0.0	0.0
	46	4.8	4.8
	47	5.1	0.0
	48	0.0	5.1
	49	0.0	0.0
	50	5.0	0.0
	51	5.0	0.0
	52	5.0	0.0
	53	0.0	0.0
	54	4.8	0.0
	55	5.0	0.0
	56	0.0	5.1
	57	0.0	0.0
	58	1.8	1.8
	59	—	0.0
	60	—	0.0
	61	0.0	0.0
	62	0.0	0.0
	63	0.0	0.0
	64	5.1	5.1
	65	—	—
	66	2.5	2.5
	67	2.5	2.5
	68	5.0	5.0
	69	5.0	5.0
	70	0.0	0.0
	71	5.0	5.0
	72	5.1	5.1
	73	0.0	0.0
	74	0.1	0.2
	75	4.9	4.9
	76	4.1	4.0
	77	4.1	4.0
	78	0.0	0.0
	79	3.0	0.0
	80	3.0	0.0
IC10 2C	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	5.1	5.1
	6	5.2	5.1
	7	0.0	0.0
	8	5.2	5.1
IC11 4D	1	0.0	0.0
	2	3.0	3.0
	3	1.8	1.8
	4	1.0	1.0
	5	0.9	0.9
	6	2.2	2.2
	7	3.6	3.6
	8	5.1	5.1
	9	5.1	5.1
	10	0.0	0.0
	11	4.2	4.2
	12	0.0	0.0
	13	4.5	4.5
IC11 4D	14	0.2	0.2
	15	1.2	1.2
	16	0.0	0.0
IC12 2D	1	0.0	0.0
	2	2.8	2.8
	3	1.2	1.2
	4	1.0	1.0
	5	0.9	0.9
	6	2.4	2.4
	7	2.8	2.8
	8	5.1	5.1
	9	5.1	5.1
	10	0.0	0.0
	11	4.2	4.2
	12	0.0	0.0
	13	4.5	4.5
	14	4.2	4.2
	15	1.1	1.1
	16	0.0	0.0
IC13 12C	1	—	—
	2	—	—
	3	—	—
	4	5.3	5.3
	5	5.3	5.3
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	10.9	10.1
	10	10.9	10.1
	11	10.9	10.1
	12	—	—
	13	—	—
	14	—	—
	15	—	—
	16	11.0	11.0
IC14 4B	1	5.4	5.4
	2	5.4	5.4
	3	5.4	5.3
	4	0.0	0.0
	5	2.8	2.8
	6	3.5	3.5
	7	1.3	1.3
	8	11.0	11.0
IC15 3A	1	7.9	7.9
	2	7.3	7.3
	3	7.0	7.1
	4	0.0	0.0
	5	3.6	3.5
	6	3.7	3.6
	7	1.8	1.8
	8	11.0	1.3
IC19 1B	1	2.4	2.4
	2	2.4	2.4
	3	2.4	2.4
	4	0.0	0.0
	5	1.9	1.9
	6	1.9	1.9
	7	1.9	1.9
	8	5.0	5.0
TRANSISTOR			
Q1 9D	B	11.7	11.7
	C	12.0	12.1
	E	11.0	11.0
Q2 7C	B	2.6	2.6
	C	3.1	3.1
	E	2.6	2.6
Q3 8C	B	2.6	2.6
	C	3.1	3.1
	E	2.6	2.6
Q4 5B	B	2.9	2.9
	C	8.8	8.8
	E	2.2	2.2
Q5 6B;Q4, Q6	B	2.2	2.2
	C	0.0	0.0
	E	2.9	2.9
Q6 6B	B	5.3	5.3
	C	11.0	11.0
	E	4.6	4.6

— DC Voltage (2/2) —

SYMBOL	No.	REC	PB
Q7 11D	B	0.0	0.0
	C	10.5	10.6
	E	0.0	0.0
Q8 11D	B	0.0	0.0
	C	10.6	10.6
	E	0.0	0.0
Q9 12D	B	0.0	0.0
	C	10.9	10.9
	E	0.0	0.0
Q10 4A	B	5.0	5.6
	C	0.0	0.0
	E	0.0	0.0
Q11 4A	B	10.8	10.8
	C	0.0	0.0
	E	0.0	0.0
Q12 8C	B	0.1	0.2
	C	3.1	3.1
	E	0.0	0.0
Q13 12E	B	5.0	5.1
	C	0.0	0.0
	E	0.0	0.0
Q14 3A	B	0.0	0.0
	C	5.1	5.1
	E	0.0	0.0
Q15 4A	B	0.0	0.0
	C	10.8	10.8
	E	10.9	10.9
Q17 3D	B	0.0	0.0
	C	5.1	5.1
	E	0.0	0.0
Q18 3D	B	5.1	5.1
	C	3.0	3.0
	E	5.1	5.1
Q19 2E	B	5.1	5.1
	C	2.7	2.7
	E	5.1	5.1
Q20 2C	B	0.0	0.0
	C	10.8	10.8
	E	0.0	0.0
Q21	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q22	B	10.7	10.7
	C	0.0	0.0
	E	10.9	10.9
CONNECTOR			
CN1	1A	0.0	0.0
	1B	5.3	5.3
	2A	0.0	0.0
	2B	5.2	5.2
	3A	0.0	0.0
	3B	5.7	5.6
	4A	0.0	0.0
	4B	5.7	5.6
	5A	0.0	0.0
	5B	5.5	5.5
	6A	0.0	0.0
	6B	5.5	5.5
	7A	0.0	0.0
	7B	5.6	5.5
	8A	0.0	0.0
	8B	5.6	5.5
	9A	5.3	5.3
	9B	5.3	5.3
	10A	12.0	12.0
	10B	12.0	12.0
	11A	0.0	0.0
	11B	0.0	0.0
	12A	5.1	5.1
	12B	5.1	5.1
	13A	13.0	13.0
	13B	13.0	13.0
	14A	0.0	0.0
	14B	0.0	0.0
	15A	0.0	0.0
	15B	4.6	0.0
	16A	0.0	0.0
	16B	—	—
	17A	0.0	0.0
	17B	—	—
	18A	0.0	0.0
	18B	5.1	5.1
	19A	4.1	4.0
	19B	4.9	5.0
	20A	0.0	0.0
	20B	0.0	0.0
	21A	3.4	3.4
	21B	—	—
	22A	0.0	0.0
	22B	0.0	0.0
CN2	1	2.8	2.9
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	5.1
	6	4.9	0.0
CN3	1	5.0	0.0
	2	5.1	0.0
	3	5.0	0.0
	4	5.0	0.0
	5	5.0	0.0
	6	5.0	0.0
	7	0.0	—
	8	3.6	3.6
	9	2.8	2.8
	10	12.0	12.0
	11	12.0	12.0
	12	12.0	12.0
	13	12.0	12.0
	14	0.0	0.0
	15	0.0	0.0
	16	0.0	0.0
	17	0.0	0.0
	18	0.0	0.0
CN4	1	5.6	5.6
	2	5.6	5.6
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	2.4	2.4
	11	0.9	0.9
	12	0.0	0.0
	13	1.0	1.0
	14	1.2	1.2
	15	0.0	5.1
	16	5.1	0.0
	17	4.8	4.8
	18	0.0	0.0
	19	5.1	5.1
	20	0.0	0.0
	21	0.0	0.0
	22	0.0	0.0
	23	12.0	12.0
	24	12.0	12.0
	25	12.0	12.0
	26	12.0	12.0
	27	0.0	0.0
	28	0.0	0.0
	29	0.0	0.0
	30	0.0	0.0
CN5	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	5.6	5.6
	5	5.6	5.6
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.1
	10	0.0	0.0
	11	0.0	0.0
	12	0.0	0.0
	13	2.2	2.2
	14	0.9	0.9
	15	0.0	0.0
	16	1.0	1.0
	17	1.8	1.8
	18	0.0	5.1
	19	5.1	0.0
	20	4.8	0.0
	21	10.2	10.1
	22	0.1	0.1
	23	10.2	10.2
	24	0.1	0.1
	25	0.0	0.0
	26	0.0	0.0
	27	0.0	0.0
	28	0.0	0.0
	29	0.0	0.0
	30	—	—

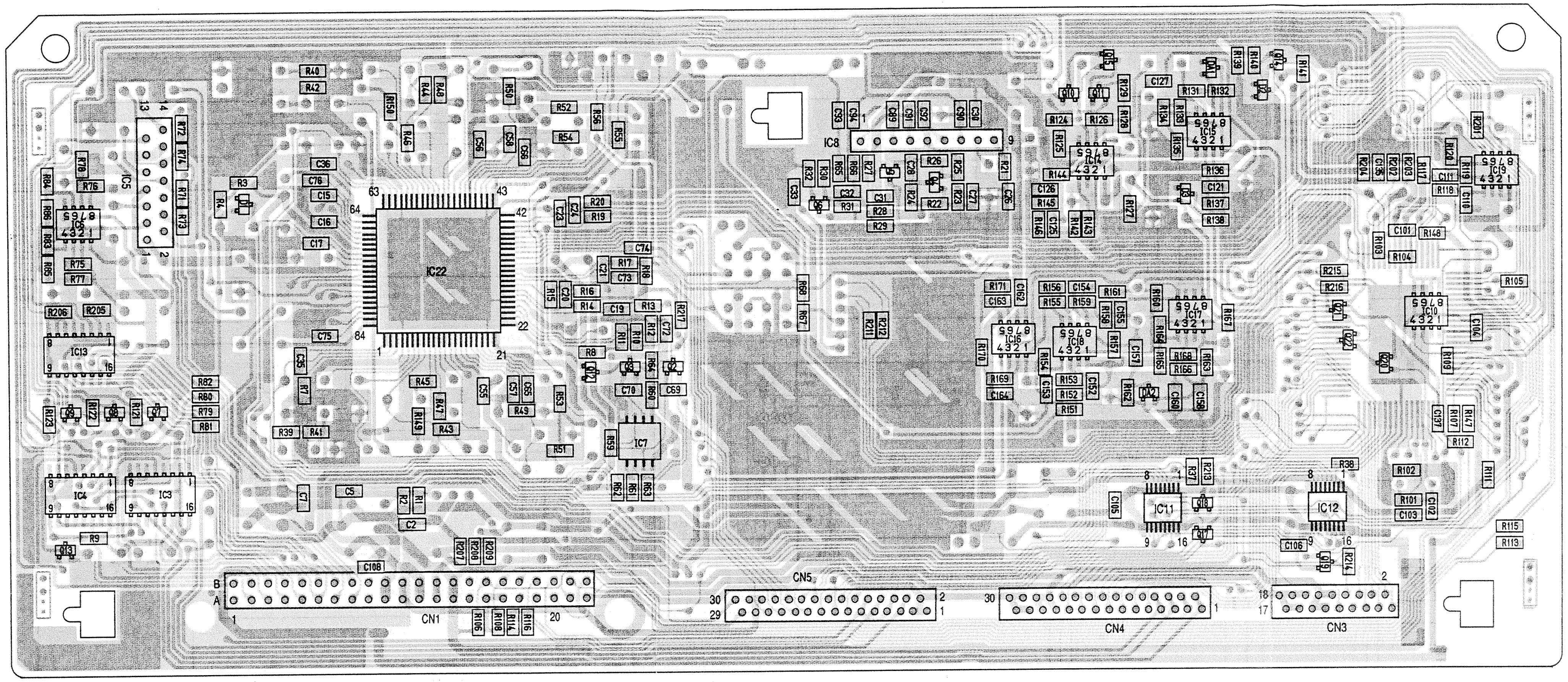
6

4.34 FM AUDIO CIRCUIT BOARD

5

4

— SOLDER side —

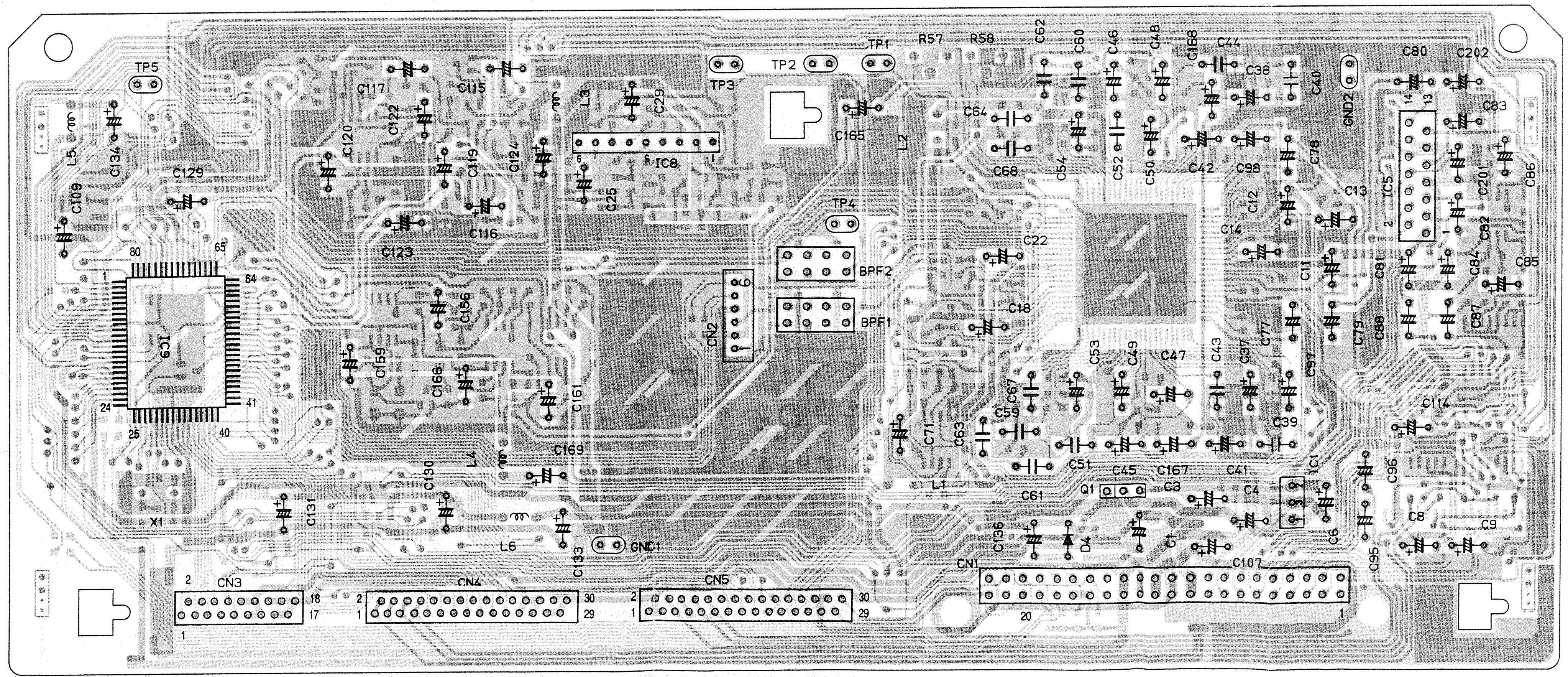

IC22
IC8
IC5
IC13
IC4
IC3
IC7
IC16
IC18
IC17
IC14
IC15
IC19
IC10
IC11
IC12
CN1
CN5
CN4
CN3

(PRK10171)

3

— PARTS Side —

2

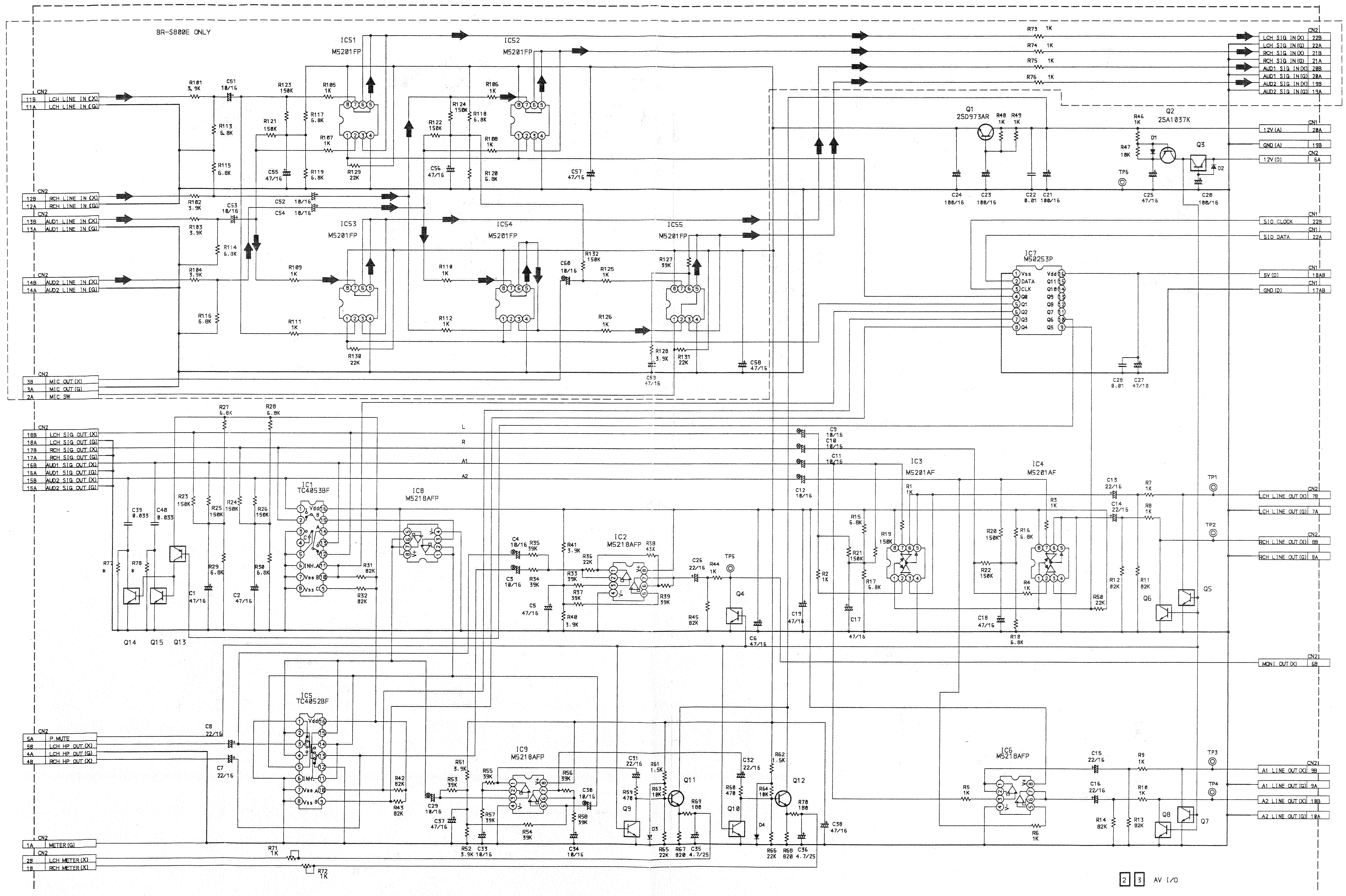

TP5
TP1
TP2
TP3
TP4
R57
R58
IC8
IC5
IC9
IC1
L2
L3
L5
L6
L7
L1
BPF1
BPF2
CN2
GND1
GND2
X1
Q1
D4
CN1
CN3
CN4
CN5

(PRK10171)

1

A B C E F G H

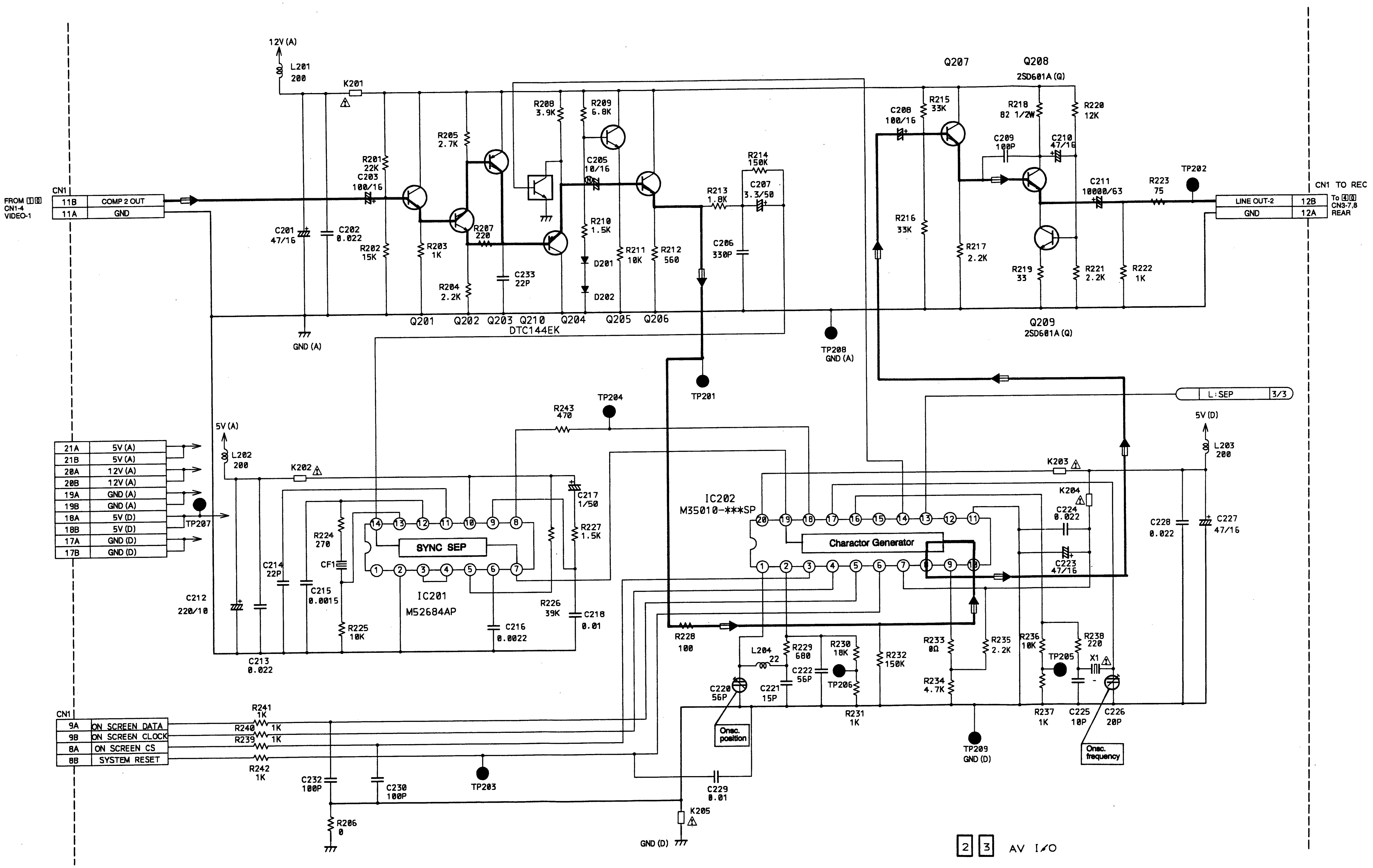
4.35 AV I/O SCHEMATIC DIAGRAM
— DIAGRAM (1/3) —


BR-S800E ONLY
IC51 M5201FP
IC52 M5201FP
IC53 M5201FP
IC54 M5201FP
IC55 M5201FP
IC7 M50253P
IC1 TC4053BF
IC8 M5218AFP
IC2 M5218AFP
IC3 M5201AF
IC4 M5201AF
IC5 TC4052BF
IC9 M5218AFP
IC6 M5218AFP
Q1 2SD973AR
Q2 2SA1037K
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
D1
D2
D3
D4
TP1
TP2
TP3
TP4
TP5
TP6
CN2 11B LCH LINE IN (X)
11A LCH LINE IN (G)
CN2 12B RCH LINE IN (X)
12A RCH LINE IN (G)
CN2 13B AUD1 LINE IN (X)
13A AUD1 LINE IN (G)
CN2 14B AUD2 LINE IN (X)
14A AUD2 LINE IN (G)
CN2 3B MIC OUT (X)
3A MIC OUT (G)
2A MIC SW
CN2 18B LCH SIG OUT (X)
18A LCH SIG OUT (G)
17B RCH SIG OUT (X)
17A RCH SIG OUT (G)
16B AUD1 SIG OUT (X)
16A AUD1 SIG OUT (G)
15B AUD2 SIG OUT (X)
15A AUD2 SIG OUT (G)
CN2 5A P MUTE
5B LCH HP OUT (X)
4A LCH HP OUT (G)
4B RCH HP OUT (X)
CN2 1A METER (G)
CN2 2B LCH METER (X)
1B RCH METER (X)
CN2 LCH SIG IN (X) 22B
LCH SIG IN (G) 22A
RCH SIG IN (X) 21B
RCH SIG IN (G) 21A
AUD1 SIG IN (X) 20B
AUD1 SIG IN (G) 20A
AUD2 SIG IN (X) 19B
AUD2 SIG IN (G) 19A
CN1 12V (A) 20A
GND (A) 19B
CN2 12V (D) 6A
CN1 SIO CLOCK 22B
CN1 SIO DATA 22A
CN1 5V (D) 18AB
CN1 GND (D) 17AB
CN2 LCH LINE OUT (X) 7B
LCH LINE OUT (G) 7A
CN2 RCH LINE OUT (X) 8B
RCH LINE OUT (G) 8A
CN21 MONI OUT (X) 6B
CN21 A1 LINE OUT (X) 9B
A1 LINE OUT (G) 9A
A2 LINE OUT (X) 10B
A2 LINE OUT (G) 10A
L
R
A1
A2
2 3 AV I/O
A B C D E F G H
1 2 3 4 5 6

NOTE:UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL NPN DIGITAL TRANSISTORS ARE DTC323TK
ALL PNP DIGITAL TRANSISTORS ARE DTA124EK
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS.(#/#W)
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPACITANCE VALUES ARE IN uF.

ELECTROLYTIC
CERAMIC
MYLAR

— DIAGRAM (2/3) —

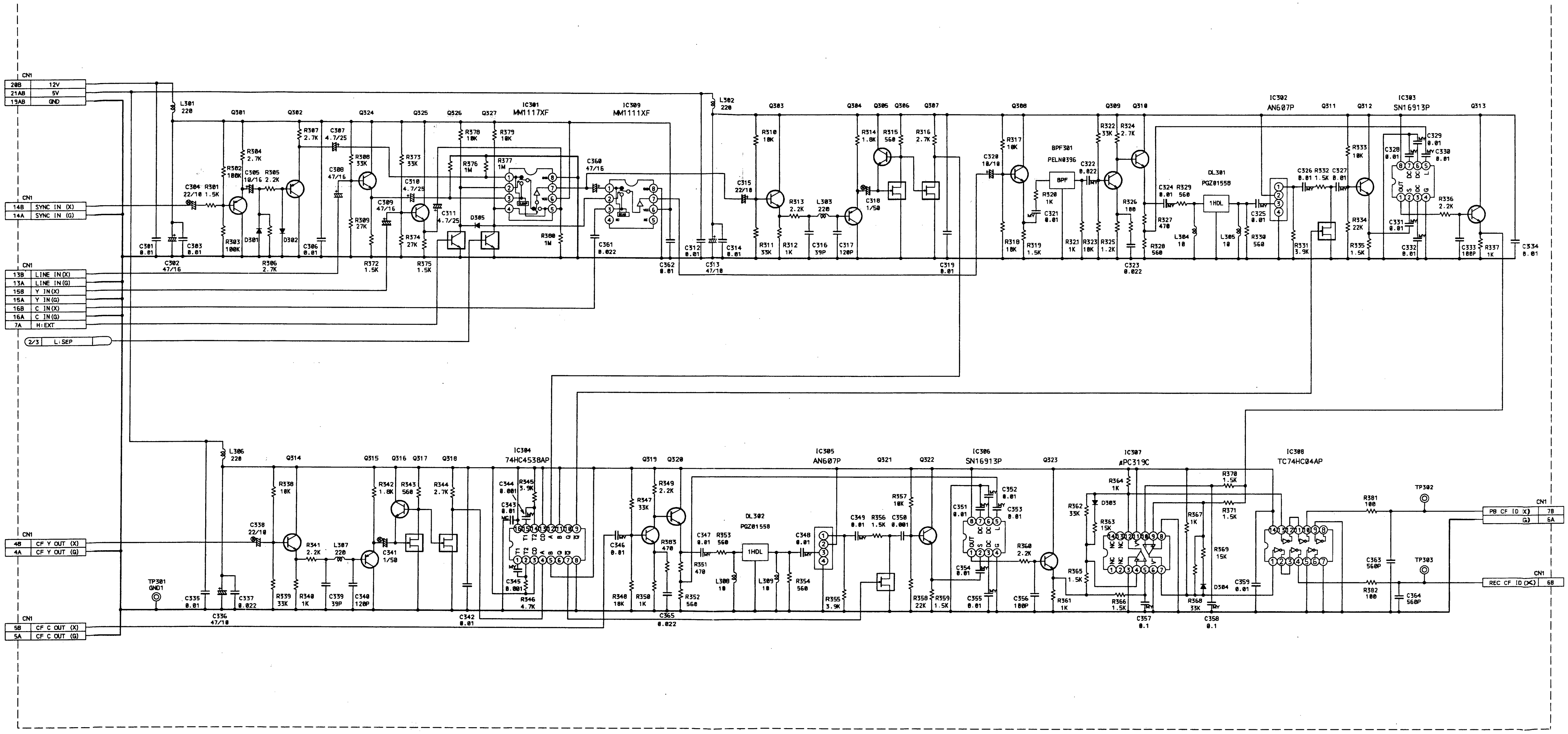

12V (A)
L201
200
K201
Q207
Q208
2SD601A (Q)
R208
3.9K
R209
6.8K
R205
2.7K
R201
22K
C203
100/16
C205
10/16
R214
150K
C207
3.3/50
R213
1.8K
C208
100/16
R215
33K
R218
82 1/2W
R220
12K
C209
100P
C210
47/16
C211
10000/63
R223
75
TP202
FROM
CN1-4
VIDEO-1
CN1
11B
COMP 2 OUT
11A
GND
C201
47/16
C202
0.022
R202
15K
R203
1K
R207
220
R210
1.5K
D201
D202
R211
10K
R212
560
C206
330P
C233
22P
R204
2.2K
R216
33K
R217
2.2K
R219
33
R221
2.2K
R222
1K
LINE OUT-2
GND
12B
12A
CN1 TO REC
To
CN3-7,8
REAR
Q201
Q202
Q203
Q210
Q204
Q205
Q206
DTC144EK
GND (A)
TP208
GND (A)
Q209
2SD601A (Q)
TP201
L:SEP
3/3
5V (D)
L203
200
21A
5V (A)
21B
5V (A)
20A
12V (A)
20B
12V (A)
19A
GND (A)
19B
GND (A)
18A
5V (D)
18B
5V (D)
17A
GND (D)
17B
GND (D)
TP207
5V (A)
L202
200
K202
R243
470
TP204
C217
1/50
R227
1.5K
R224
270
CF1
SYNC SEP
C214
22P
C215
0.0015
IC201
M52684AP
R225
10K
C212
220/10
C213
0.022
C216
0.0022
R226
39K
C218
0.01
IC202
M35010-***SP
Charactor Generator
K203
K204
C224
0.022
C223
47/16
C228
0.022
C227
47/16
R228
100
L204
22
R229
680
R230
10K
R232
150K
C222
56P
C220
56P
C221
15P
TP206
R231
1K
R233
0Ω
R234
4.7K
R235
2.2K
R236
10K
R238
220
TP205
X1
R237
1K
C225
10P
C226
20P
Onsc.
position
TP209
GND (D)
Onsc.
frequency
CN1
9A
ON SCREEN DATA
9B
ON SCREEN CLOCK
8A
ON SCREEN CS
8B
SYSTEM RESET
R241
1K
R240
1K
R239
1K
R242
1K
C232
100P
C230
100P
TP203
C229
0.01
K205
GND (D)
R206
0
2 3 AV I/O

NOTE: UNLESS OTHERWISE SPECIFIED;
ALL NPN TRANSISTORS ARE 2SC2778(C)
ALL PNP TRANSISTORS ARE 2SA1022(C)
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.

ALL CAPACITANCE VALUES ARE IN uF.

⫩	ELECTROLYTIC
⊣⊢	CERAMIC

— DIAGRAM (3/3) —


CN1
20B 12V
21AB 5V
19AB GND
CN1
14B SYNC IN (X)
14A SYNC IN (G)
CN1
13B LINE IN(X)
13A LINE IN(G)
15B Y IN(X)
15A Y IN(G)
16B C IN(X)
16A C IN(G)
7A H:EXT
2/3 L:SEP
CN1
4B CF Y OUT (X)
4A CF Y OUT (G)
CN1
5B CF C OUT (X)
5A CF C OUT (G)
IC301 MM1117XF
IC309 MM1111XF
BPF301 PELN0396
DL301 PGZ01558
IC302 AN607P
IC303 SN16913P
IC304 74HC4538AP
DL302 PGZ01558
IC305 AN607P
IC306 SN16913P
IC307 μPC319C
IC308 TC74HC04AP
TP301 GND1
TP302
TP303
CN1
PB CF ID (X) 7B
(G) 6A
CN1
REC CF ID (X) 6B

NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL NPN DIGITAL TRANSISTORS ARE DTC144EK
ALL PNP DIGITAL TRANSISTORS ARE DTA144EK
ALL DIODES ARE DAN202K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.

ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
NON-POLARIZED
TANTALUM
CERAMIC
MYLAR

— DC Voltage (1/2) —

SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC1 5E	1	5.5	5.5
	2	5.5	5.5
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	11.0	11.0
	10	0.0	0.0
	11	0.0	0.0
	12	5.5	5.5
	13	5.5	5.5
	14	5.5	5.5
	15	5.5	5.5
	16	11.2	11.2
IC2 4F	1	5.6	5.6
	2	5.6	5.6
	3	5.5	5.6
	4	0.0	0.0
	5	5.5	5.6
	6	5.6	5.6
	7	5.6	5.6
	8	11.2	11.2
IC3 6F	1	11.2	11.1
	2	5.6	5.6
	3	5.6	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.6	5.6
	7	5.5	5.6
	8	11.2	11.2
IC4 7F	1	11.0	11.0
	2	5.2	5.0
	3	5.7	5.7
	4	0.0	0.0
	5	5.7	5.6
	6	5.7	5.6
	7	5.6	5.2
	8	11.2	11.2
IC5 4E	1	0.0	0.0
	2	5.6	5.6
	3	5.6	5.6
	4	5.6	5.6
	5	5.6	5.6
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	10.3	10.4
	11	5.6	5.6
	12	0.0	0.0
	13	5.6	5.6
	14	5.6	5.6
	15	5.6	5.6
	16	11.2	11.2
IC6 7E	1	5.6	5.6
	2	5.6	5.6
	3	5.5	5.2
	4	0.0	0.0
	5	5.6	5.2
	6	5.6	5.6
	7	5.6	5.6
	8	11.2	11.2
IC7 6B	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.1	0.1
	5	0.1	0.1
	6	0.0	0.0
	7	10.5	10.3
	8	0.0	0.0
	9	11.1	11.0
	10	10.8	10.7
	11	0.0	0.0
	12	0.0	0.0
	13	0.0	0.0
	14	0.0	0.0
	15	0.0	0.0
	16	5.1	5.1
IC8 4F	1	5.6	5.6
	2	5.6	5.6
	3	—	—
	4	0.0	0.0
	5	—	5.5
	6	5.6	5.6
	7	5.6	5.6
	8	11.2	11.2
IC9 12E	1	5.6	5.6
	2	5.6	5.6
	3	5.5	5.6
	4	0.0	0.0
	5	5.6	5.5
	6	5.6	5.6
	7	5.6	5.6
	8	11.2	11.2
IC51 2D	1	0.1	0.1
	2	5.5	5.5
	3	5.6	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.6	5.6
	7	5.5	5.5
	8	11.2	11.2
IC52 3D	1	0.1	0.1
	2	5.5	5.4
	3	5.6	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.6	5.6
	7	5.5	5.5
	8	11.2	11.2
IC53 2B	1	0.1	0.1
	2	5.5	5.6
	3	5.6	5.7
	4	0.0	0.0
	5	5.6	5.7
	6	5.6	5.7
	7	5.5	5.7
	8	11.2	11.3
IC54 2B	1	0.1	0.1
	2	5.5	5.5
	3	5.6	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.6	5.6
	7	5.5	5.5
	8	11.2	11.2
IC55 3C	1	11.1	11.2
	2	5.6	5.6
	3	5.6	5.6
	4	0.0	0.0
	5	5.6	5.6
	6	5.6	5.6
	7	—	—
	8	11.2	11.2
IC201 10C	1	0.9	0.9
	2	0.0	0.0
	3	1.0	1.0
	4	1.0	1.0
	5	3.5	3.5
	6	0.2	0.2
	7	4.4	4.4
	8	4.2	4.2
	9	2.8	2.8
	10	5.3	5.3
	11	2.2	2.2
	12	2.2	2.2
	13	3.1	3.1
	14	3.7	3.7
IC202 10E	1	2.3	2.3
	2	2.2	2.2
	3	—	—
	4	4.8	4.8
	5	0.7	0.8
	6	5.1	5.1
	7	5.0	5.0
	8	2.6	2.6
	9	3.4	3.4
	10	2.6	2.6
	11	0.0	0.0
	12	0.0	0.0
	13	5.0	5.0
IC202 10E	14	0.0	0.0
	15	0.0	0.0
	16	2.3	2.3
	17	2.3	2.3
	18	4.2	4.2
	19	4.4	4.4
	20	5.0	5.0
IC301 13C	1	3.2	3.2
	2	7.6	7.6
	3	3.7	3.7
	4	0.0	0.0
	5	3.2	3.2
	6	11.9	11.9
	7	3.0	3.0
	8	0.0	0.0
IC302 13E	1	3.3	3.2
	2	5.2	5.2
	3	1.8	1.8
	4	0.0	0.0
IC303 13F	1	4.3	4.3
	2	2.6	2.6
	3	1.9	1.9
	4	0.0	0.0
	5	1.9	1.9
	6	2.6	2.6
	7	2.6	2.6
	8	5.2	5.2
IC304 15C	1	0.0	0.0
	2	4.8	4.7
	3	5.1	5.1
	4	4.7	4.7
	5	5.1	5.1
	6	0.4	0.4
	7	4.8	4.8
	8	0.0	0.0
	9	4.8	5.1
	10	0.3	0.0
	11	5.1	5.1
	12	4.7	0.1
	13	5.1	5.1
	14	4.8	5.1
	15	0.0	0.0
	16	5.1	5.1
IC305 14D	1	3.3	3.3
	2	5.1	5.1
	3	1.8	1.8
	4	0.0	0.0
IC306 15E	1	4.3	4.3
	2	2.5	2.6
	3	1.9	1.9
	4	0.0	0.0
	5	1.9	1.9
	6	2.6	2.6
	7	2.5	2.6
	8	5.1	5.1
IC307 15F	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	3.6	3.6
	5	3.6	3.7
	6	0.0	0.0
	7	2.8	0.3
	8	0.0	0.0
	9	3.7	3.5
	10	3.7	3.7
	11	5.1	—
	12	2.7	—
	13	0.0	0.0
	14	0.0	0.0
IC308 14F	1	2.8	0.3
	2	2.5	5.1
	3	2.5	5.1
	4	2.7	0.0
	5	0.0	0.0
	6	5.1	5.1
	7	0.0	0.0
	8	5.1	5.1
	9	0.0	0.0
	10	2.6	2.6
	11	2.5	2.6
	12	2.5	2.6
	13	2.6	2.7
	14	5.1	5.1
IC309 12C	1	6.6	6.7
	2	0.0	5.6
	3	6.7	6.7
	4	0.0	0.0
	5	—	0.0
	6	11.9	11.9
	7	6.0	5.9
	8	0.0	0.0
TRANSISTOR			
Q1 5D	B	11.9	11.9
	C	12.0	12.0
	E	11.2	11.2
Q2 5C	B	12.0	12.0
	C	0.5	0.0
	E	11.9	12.0
Q3 5B	B	12.8	13.0
	C	0.5	0.0
	E	13.0	13.0
Q4 5F	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q5 7D	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q6 7C	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q7 7D	B	0.4	0.0
	C	0.0	0.0
	E	0.0	0.0
Q8 7D	B	0.3	0.0
	C	0.0	0.0
	E	0.0	0.0
Q9 3E	B	0.0	0.0
	C	0.5	0.5
	E	0.0	0.0
Q10 2E	B	0.0	0.0
	C	0.5	0.5
	E	0.0	0.0
Q11 2F	B	0.5	0.5
	C	12.0	12.0
	E	0.0	0.0
Q12 3F	B	0.5	0.5
	C	12.0	12.0
	E	0.0	0.0
Q13 5E	B	11.1	11.1
	C	0.0	0.0
	E	11.2	11.2
Q14 5F	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q15 5F	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q201 9C	B	4.6	4.6
	C	11.8	11.8
	E	4.0	4.1
Q202 8C	B	4.0	4.0
	C	11.1	11.1
	E	3.5	3.5
Q203 8C	B	11.1	11.1
	C	3.7	3.8
	E	11.8	11.8
Q204 8C	B	3.7	3.8
	C	0.0	0.0
	E	4.0	4.0
Q205 8D	B	3.1	3.1
	C	11.8	11.8
	E	3.1	3.1

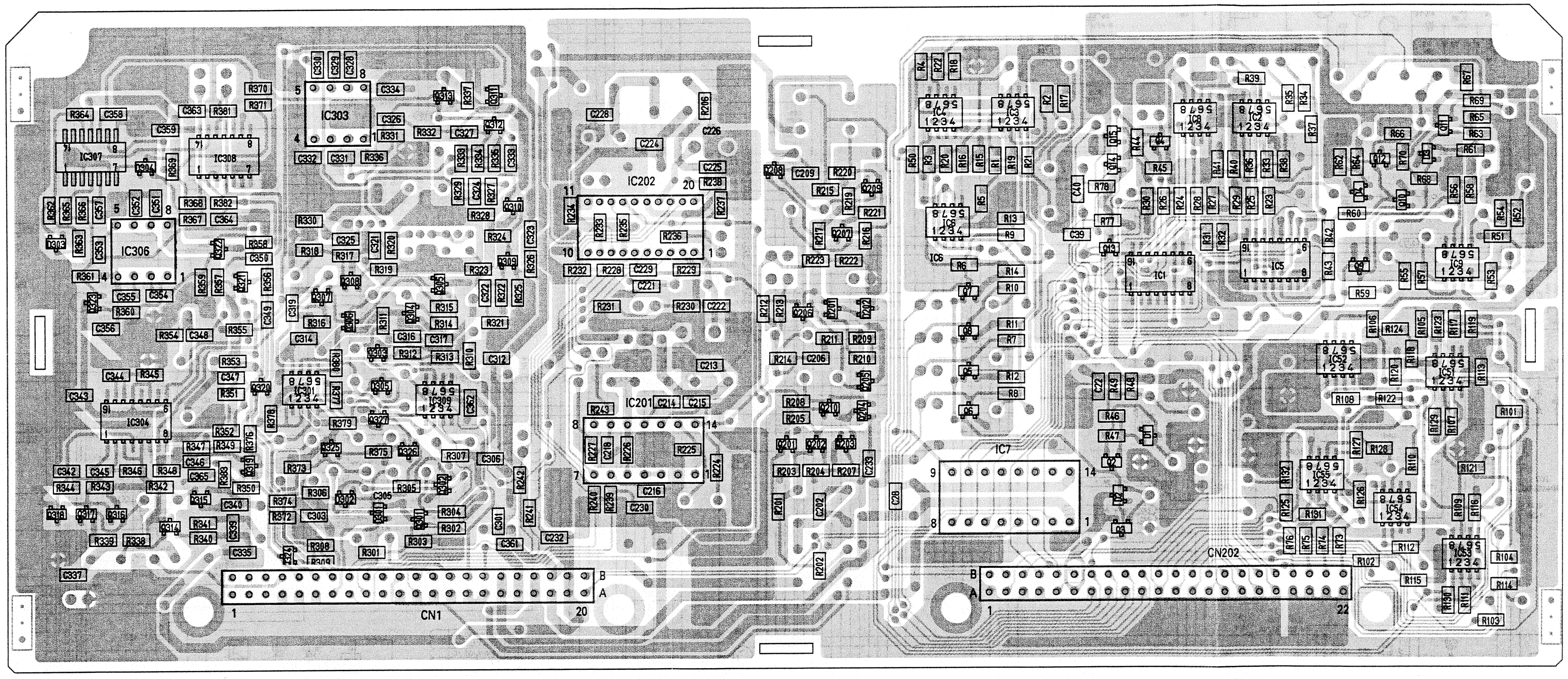
— DC Voltage (2/2) —

SYMBOL	No.	REC	PB
Q206 8D	B	3.1	3.1
	C	11.8	11.8
	E	2.7	2.8
Q207 8E	B	5.2	5.7
	C	11.8	11.8
	E	5.2	5.2
Q208 9F	B	5.2	5.2
	C	9.4	9.4
	E	4.3	4.3
Q209 8F	B	1.7	1.7
	C	4.3	4.3
	E	1.0	1.0
Q210 8C	B	0.0	0.0
	C	4.0	4.0
	E	0.0	0.0
Q301 12B	B	6.4	6.4
	C	0.0	0.0
	E	7.0	7.0
Q302 12C	B	0.1	0.1
	C	0.0	0.0
	E	0.8	0.8
Q303 13D	B	3.9	3.9
	C	5.2	5.2
	E	3.3	3.3
Q304 12D	B	3.3	3.3
	C	0.0	0.0
	E	3.9	3.9
Q305 12E	B	0.9	0.9
	C	5.2	5.2
	E	3.4	3.4
Q306 13D	B	3.4	3.4
	C	0.9	0.9
	E	0.0	0.0
Q307 13D	B	0.9	0.9
	C	4.7	4.7
	E	0.0	0.0
Q308 13E	B	2.6	2.6
	C	5.2	5.2
	E	2.1	2.1
Q309 11E	B	1.2	1.2
	C	3.8	3.8
	E	0.6	0.6
Q310 11E	B	3.8	3.8
	C	5.2	5.2
	E	3.4	3.4
Q311 11F	B	4.8	4.8
	C	0.0	0.0
	E	0.0	0.0
Q312 11F	B	3.5	3.5
	C	5.2	5.2
	E	2.9	2.9
Q313 12F	B	4.3	4.3
	C	5.2	5.2
	E	3.7	3.7
Q314 15B	B	3.9	3.9
	C	5.1	5.1
	E	3.2	3.2
Q315 14B	B	3.2	3.2
	C	0.0	0.0
	E	3.9	3.9
Q316 15B	B	0.8	0.8
	C	5.1	5.1
	E	3.4	3.4
Q317 16B	B	3.4	3.4
	C	0.8	0.8
	E	0.0	0.0
Q318 16B	B	0.8	0.8
	C	4.7	4.7
	E	0.0	0.0

SYMBOL	No.	REC	PB
Q319 14C	B	1.8	1.8
	C	2.6	2.6
	E	1.1	1.1
Q320 14D	B	2.6	2.6
	C	5.1	5.1
	E	2.3	2.3
Q321 14E	B	4.8	4.8
	C	0.0	0.0
	E	0.0	0.0
Q322 14E	B	3.5	3.5
	C	5.1	5.1
	E	2.9	2.9
Q323 15D	B	4.3	4.3
	C	5.1	5.1
	E	3.6	3.6
Q324 14B	B	5.3	5.3
	C	11.9	11.9
	E	4.7	4.7
Q325 13C	B	5.3	5.3
	C	11.9	11.9
	E	4.7	4.7
Q326 12C	B	0.0	0.0
	C	7.6	7.6
	E	0.0	0.0
Q327 13C	B	5.0	5.0
	C	0.0	0.0
	E	0.0	0.0
CONNECTOR			
CN1	1A	0.0	0.0
	1B	0.0	0.0
	2A	0.0	0.0
	2B	0.0	0.0
	3A	0.0	0.0
	3B	0.0	0.0
	4A	0.0	0.0
	4B	3.8	3.8
	5A	0.0	0.0
	5B	3.4	3.4
	6A	0.0	0.0
	6B	2.7	2.7
	7A	0.0	0.0
	7B	0.0	—
	8A	—	—
	8B	5.1	5.1
	9A	0.6	0.6
	9B	4.8	4.7
	10A	0.0	0.0
	10B	0.0	0.0
	11A	0.0	0.0
	11B	0.0	0.0
	12A	0.0	0.0
	12B	0.0	0.0
	13A	0.0	0.0
	13B	0.0	0.0
	14A	0.0	0.0
	14B	0.0	0.0
	15A	0.0	0.0
	15B	0.0	0.0
	16A	0.0	0.0
	16B	0.0	0.0
	17A	0.0	0.0
	17B	0.0	0.0
	18A	5.1	5.1
	18B	5.1	5.1
	19A	0.0	0.0
	19B	0.0	0.0
	20A	12.0	12.0
	20B	12.0	12.0
	21A	5.3	5.3
	21B	5.3	5.3
	22A	0.0	0.0
	22B	0.0	0.0

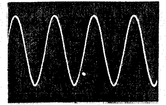
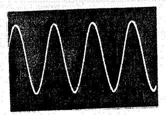
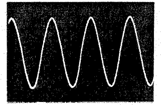
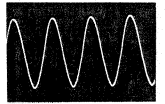
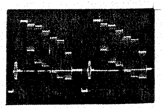
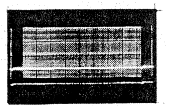
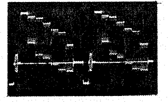
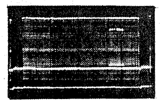
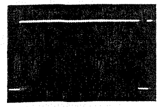
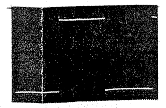
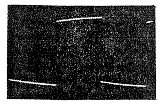
SYMBOL	No.	REC	PB
CN2	1A	0.0	0.0
	1B	0.0	0.0
	2A	11.1	11.2
	2B	0.0	0.0
	3A	0.0	0.0
	3B	1.8	1.8
	4A	0.0	0.0
	4B	0.0	0.0
	5A	0.0	0.0
	5B	0.0	0.0
	6A	13.0	13.0
	6B	0.0	0.0
	7A	0.0	0.0
	7B	0.0	0.0
	8A	0.0	0.0
	8B	0.0	0.0
	9A	0.0	0.0
	9B	0.0	0.0
	10A	0.0	0.0
	10B	0.0	0.0
	11A	0.0	0.0
	11B	0.0	0.0
	12A	0.0	0.0
	12B	0.0	0.0
	13A	0.0	0.0
	13B	0.0	0.0
	14A	0.0	0.0
	14B	0.0	0.0
	15A	0.0	0.0
	15B	5.5	5.5
	16A	0.0	0.0
	16B	5.5	5.6
	17A	0.0	0.0
	17B	5.5	5.6
	18A	0.0	0.0
	18B	5.5	5.6
	19A	0.0	0.0
	19B	5.6	5.6
	20A	0.0	0.0
	20B	5.6	5.6
	21A	0.0	0.0
	21B	5.2	5.2
	22A	0.0	0.0
	22B	5.3	5.3

4.36 AV I/O CIRCUIT BOARD


IC307
IC308
IC303
IC306
IC304
IC301
IC309
IC202
IC201
IC7
IC1
IC5
IC6
CN1
CN202
1
20
22
A
B

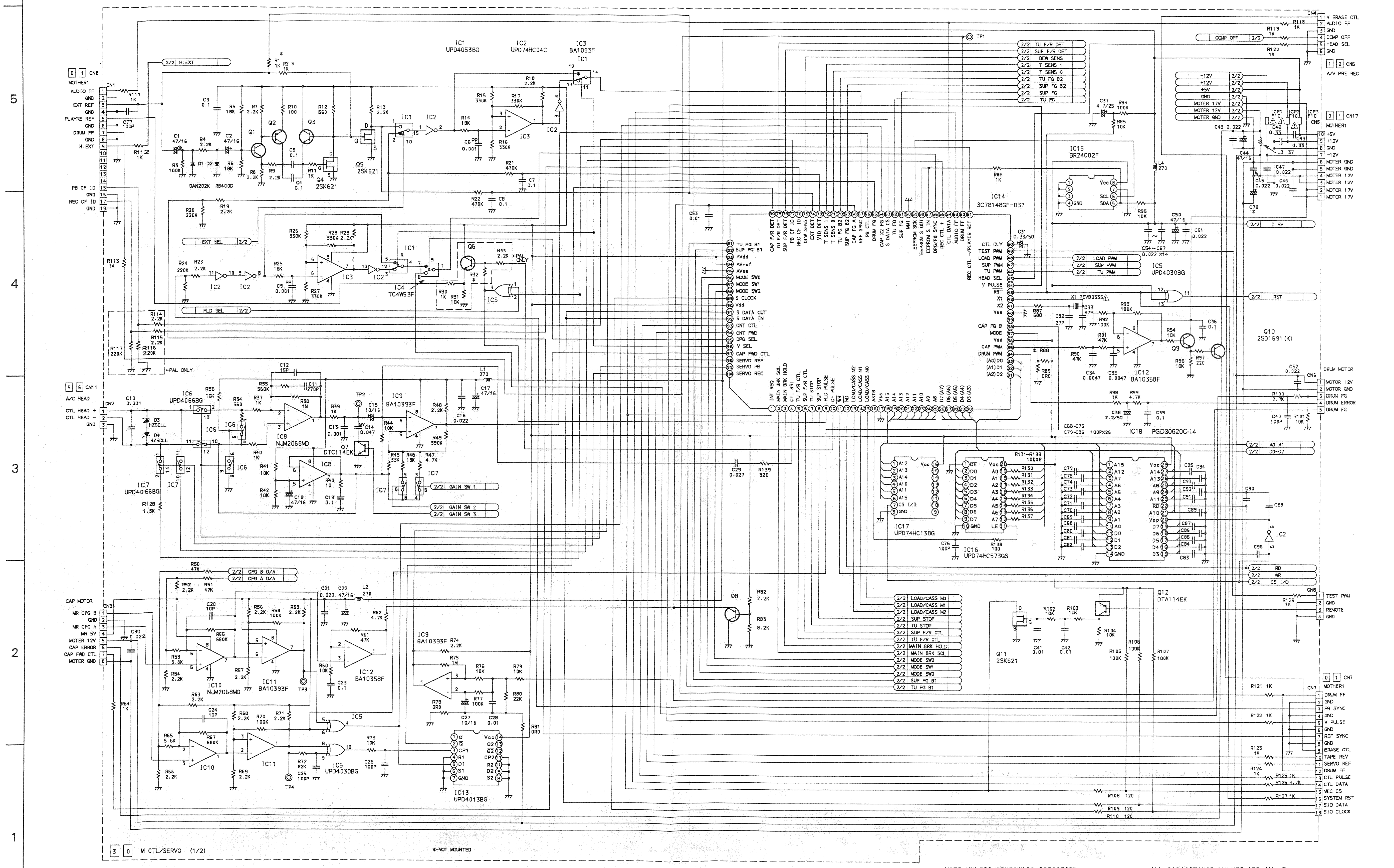
(PRK20267-01-01)

— MAIN WAVEFORMS OF AV I/O CIRCUIT —

TP1, TP2	TP3, TP4	TP5		TP201		TP202		TP204	TP302	TP303
										
[PB]	[PB]	[PB]	[PB]	[REC]	[REC]	[REC]	[REC]	[REC]	[PB]	[REC]
1.1 Vp-p	0.8 Vp-p	1.1 Vp-p	0.8 Vp-p	2.0 Vp-p	2.0 Vp-p	1.0 Vp-p	1.0 Vp-p	4.4 V/15.625 kHz	5.1 Vp-p/7.8 kHz	4.8 Vp-p/7.8 kHz
– MBAFE-2 –	– MBAE –	– MBAFE-2 –	– MBAE –	– H-rate –	– V-rate –	– H-rate –	– V-rate –	– S-VHS –	– MHVE-2H –	– S-VHS –

4.37 M-CTL/SERVO SCHEMATIC DIAGRAM

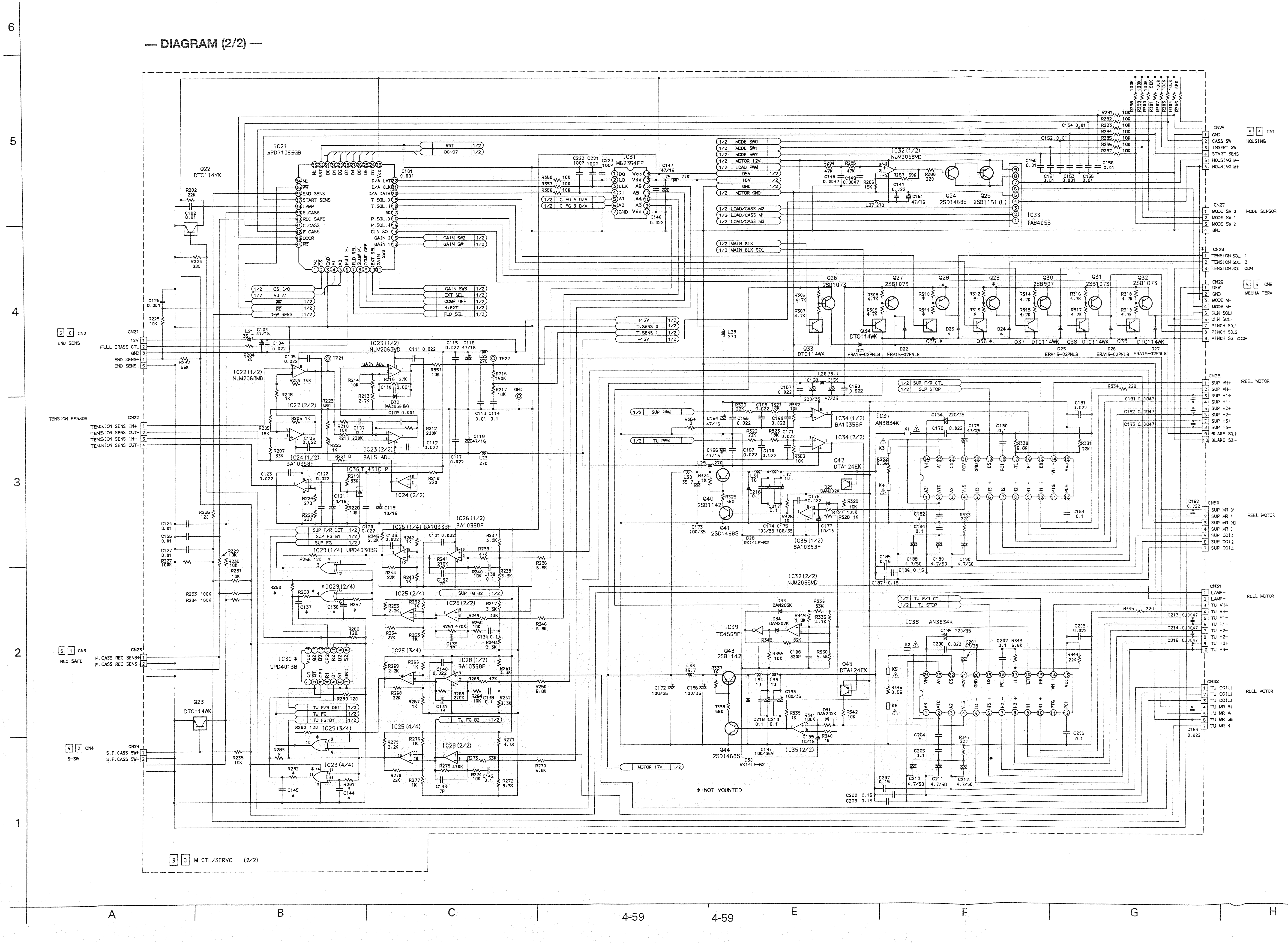
— DIAGRAM (1/2) —


6
5
4
3
2
1
IC1 UPD4053BG
IC2 UPD74HC04C
IC3 BA10393F
IC4 TC4W53F
IC5 UPD4030BG
IC6 UPD4066BG
IC7 UPD4066BG
IC8 NJM2068MD
IC9 BA10393F
IC10 NJM2068MD
IC11 BA10393F
IC12 BA10358F
IC13 UPD4013BG
IC14 SC78148GF-037
IC15 BR24C02F
IC16 UPD74HC573GS
IC17 UPD74HC138G
IC18 PGD30620C-14
Q5 2SK621
Q4 2SK621
Q7 DTC114EK
Q10 2SD1691 (K)
Q11 2SK621
Q12 DTA114EK
CN8 MOTHER1
AUDIO FF
GND
EXT REF
GND
PLAYRE REF
GND
DRUM FF
GND
H.EXT
PB CF ID
GND
REC CF ID
GND
CN11 A/C HEAD
CTL HEAD +
CTL HEAD −
GND
CAP MOTOR
MR CFG B
GND
MR CFG A
MR 5V
MOTER 12V
CAP ERROR
CAP FWD CTL
MOTER GND
CN4
V ERASE CTL
AUDIO FF
GND
COMP OFF
HEAD SEL
GND
CN5 A/V PRE REC
CN17 MOTHER1
+5V
+12V
GND
−12V
MOTER GND
MOTER GND
MOTER 12V
MOTER 12V
MOTER 17V
MOTER 17V
CN6 DRUM MOTOR
MOTOR 12V
MOTOR GND
DRUM PG
DRUM ERROR
DRUM FG
CN8
TEST PWM
GND
REMOTE
GND
CN7 MOTHER1
DRUM FF
GND
PB SYNC
GND
V PULSE
GND
REF SYNC
GND
ERASE CTL
TAPE REV
SERVO REF
DRUM FF
CTL PULSE
CTL DATA
MEC CS
SYSTEM RST
SIO DATA
SIO CLOCK
TP1
TP2
TP3
TP4
X1 PFEV80355
3 0 M CTL/SERVO (1/2)
*-NOT MOUNTED

NOTE: UNLESS OTHERWISE SPECIFIED:
ALL NPN TRANSISTORS ARE 2SC2412K
ALL PNP TRANSISTORS ARE 2SA1037K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.

ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
NON-POLARIZED
CERAMIC
MYLAR
POIYPROPYLENE MYLAR

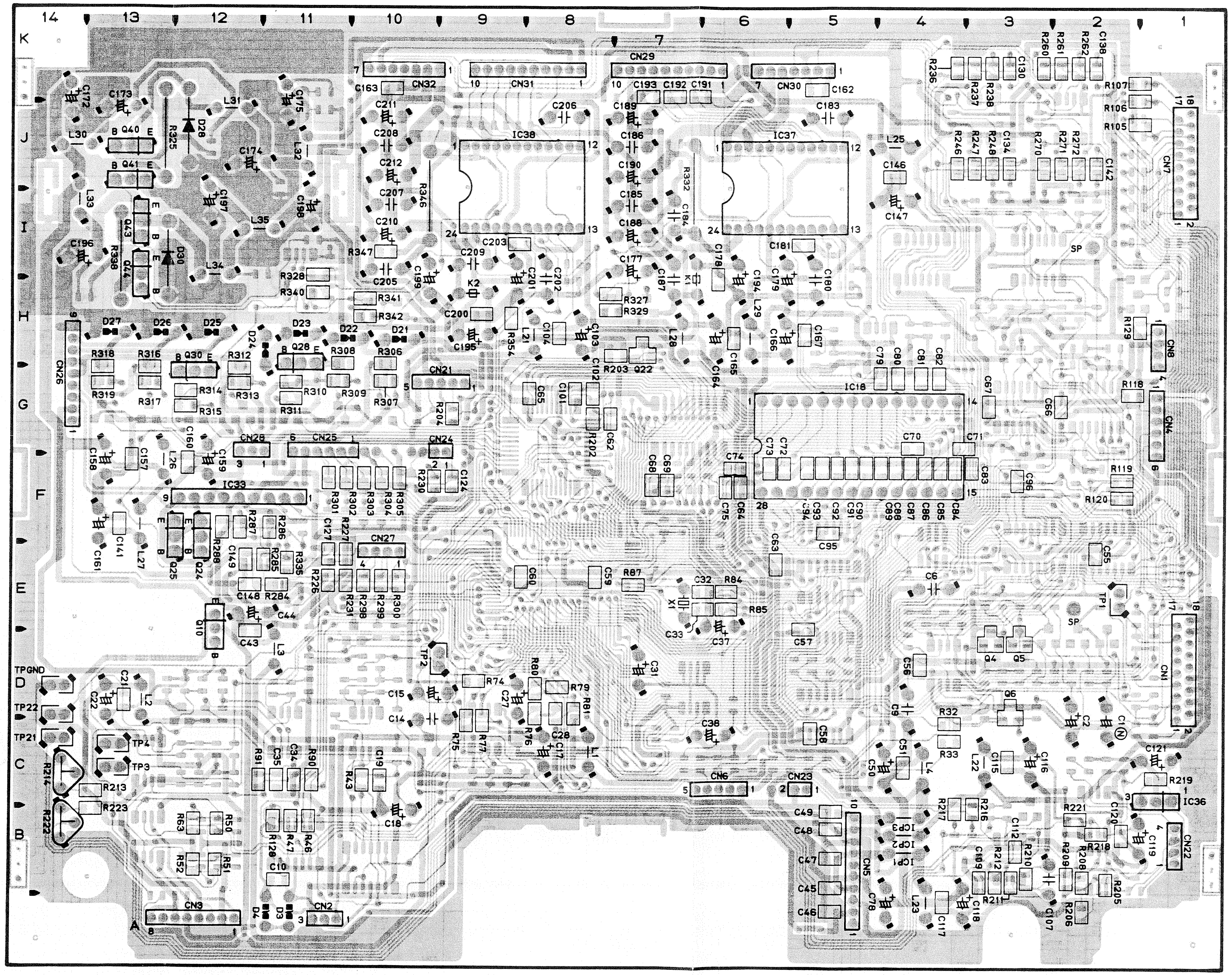
— DIAGRAM (2/2) —



6
5
4
3
2
1
A
B
C
E
F
G
H
IC21 μPD71055GB
Q22 DTC114YK
Q23 DTC114WK
IC31 M62354FP
IC32 (1/2) NJM2068MD
IC32 (2/2) NJM2068MD
IC33 TA8405S
Q24 2SD1468S
Q25 2SB1151 (L)
IC22 (1/2) NJM2068MD
IC22 (2/2)
IC23 (1/2) NJM2068MD
IC23 (2/2)
IC24 (1/2) BA10358F
IC24 (2/2)
IC36 TL431CLP
IC25 (1/4) BA10339F
IC25 (2/4)
IC25 (3/4)
IC25 (4/4)
IC26 (1/2) BA10358F
IC26 (2/2)
IC28 (1/2) BA10358F
IC28 (2/2)
IC29 (1/4) UPD4030BG
IC29 (2/4)
IC29 (3/4)
IC29 (4/4)
IC30 UPD4013B
IC34 (1/2) BA10358F
IC34 (2/2)
IC35 (1/2) BA10393F
IC35 (2/2)
IC37 AN3834K
IC38 AN3834K
IC39 TC4S69F
Q26 2SB1073
Q27 2SB1073
Q28
Q29
Q30 2SB907
Q31 2SB1073
Q32 2SB1073
Q33 DTC114WK
Q34 DTC114WK
Q35
Q36
Q37 DTC114WK
Q38 DTC114WK
Q39 DTC114WK
Q40 2SB1142
Q41 2SD1468S
Q42 DTA124EK
Q43 2SB1142
Q44 2SD1468S
Q45 DTA124EK
5 0 CN2 END SENS
CN21
12V
FULL ERASE CTL
GND
END SENS+
END SENS-
TENSION SENSOR
CN22
TENSION SENS IN+
TENSION SENS OUT-
TENSION SENS IN-
TENSION SENS OUT+
5 1 CN3 REC SAFE
CN23
F.CASS REC SENS+
F.CASS REC SENS-
5 2 CN4 S-SW
CN24
S.F.CASS SW+
S.F.CASS SW-
CN25
GND
CASS SW
INSERT SW
START SENS
HOUSING M-
HOUSING M+
5 4 CN1 HOUSING
CN27
MODE SW 0
MODE SW 1
MODE SW 2
GND
MODE SENSOR
CN28
TENSION SOL 1
TENSION SOL 2
TENSION SOL COM
CN26
DEW
GND
MODE M+
MODE M-
CLN SOL+
CLN SOL-
PINCH SOL1
PINCH SOL2
PINCH SOL COM
5 5 CN6 MECHA TERM
CN29
SUP VH+
SUP VH-
SUP H1+
SUP H1-
SUP H2+
SUP H2-
SUP H3+
SUP H3-
BLAKE SOL+
BLAKE SOL-
REEL MOTOR
CN30
SUP MR B
SUP MR A
SUP MR GND
SUP MR B
SUP COIL
SUP COIL
SUP COIL
CN31
LAMP+
LAMP-
TU VH+
TU VH-
TU H1+
TU H1-
TU H2+
TU H2-
TU H3+
TU H3-
CN32
TU COIL
TU COIL
TU COIL
TU MR B
TU MR A
TU MR GND
TU MR B
RST
D0-D7
GAIN SW2
GAIN SW1
CS I/O
A0 A1
WR
RD
DEW SENS
GAIN SW3
EXT SEL
COMP OFF
H:EXT
FLD SEL
C FG A D/A
C FG B D/A
MODE SW0
MODE SW1
MODE SW2
MOTOR 12V
LOAD PWM
D5V
+5V
GND
MOTOR GND
LOAD/CASS M2
LOAD/CASS M1
LOAD/CASS M0
MAIN BLK
MAIN BLK SOL
+12V
T.SENS 0
T.SENS 1
-12V
SUP PWM
TU PWM
SUP F/R CTL
SUP STOP
TU F/R CTL
TU STOP
SUP F/R DET
SUP FG B1
SUP FG
SUP FG B2
TU F/R DET
TU FG
TU FG B1
TU FG B2
MOTOR 17V
GAIN ADJ
BAIS ADJ
TP21
TP22
GND
*:NOT MOUNTED
3 0 M CTL/SERVO (2/2)

4.38 M-CTL/SERVO CIRCUIT BOARD

— SOLDER Side —


14
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K
J
I
H
G
F
E
D
C
B
A
IC38
IC37
IC18
IC33
IC36
CN32
CN31
CN29
CN30
CN7
CN8
CN4
CN1
CN22
CN26
CN21
CN28
CN25
CN24
CN27
CN6
CN23
CN5
CN3
CN2
TPGND
TP22
TP21
TP1
TP2
TP3
TP4
SP
X1
K1
K2

(PRK10135-01-01)

— DC Voltage (1/4) —

SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC1	1	0.1	0.1
	2	4.0	4.0
	3	0.1	0.1
	4	0.1	0.1
	5	0.4	0.4
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	4.5	4.5
	10	0.0	0.0
	11	4.5	4.5
	12	0.4	0.4
	13	0.1	0.1
	14	0.1	0.1
	15	4.0	4.0
	16	4.9	4.9
IC2	1	4.0	4.0
	2	0.4	0.4
	3	4.8	4.8
	4	0.1	0.1
	5	4.5	4.9
	6	0.0	0.0
	7	0.0	0.0
	8	0.4	0.4
	9	4.5	4.7
	10	4.5	4.7
	11	0.5	0.5
	12	0.1	0.1
	13	4.8	4.8
	14	4.9	4.9
IC3	1	4.8	4.8
	2	0.4	0.4
	3	3.2	3.2
	4	0.0	0.0
	5	3.2	3.2
	6	0.4	0.4
	7	4.8	4.8
	8	4.9	4.9
IC4	1	0.1	0.1
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	4.1	4.1
	6	0.0	0.0
	7	0.1	0.1
	8	4.9	4.9
IC5	1	—	0.0
	2	—	0.0
	3	—	0.2
	4	2.5	2.5
	5	2.7	2.7
	6	2.6	2.6
	7	0.0	0.0
	8	2.6	2.6
	9	2.5	2.5
	10	0.1	0.1
	11	0.0	0.0
	12	5.2	5.2
	13	4.9	4.9
	14	4.9	4.9
IC6	1	—	2.6
	2	2.6	2.6
	3	2.6	2.6
	4	2.6	2.6
	5	5.1	0.1
	6	0.0	4.9
	7	0.0	0.0
	8	0.0	0.0
	9	5.1	0.1
	10	2.6	2.6
	11	2.5	2.5
	12	0.0	4.9
	13	0.0	4.9
	14	5.1	5.1
IC7	1	2.5	2.5
	2	2.4	0.1
	3	2.4	2.6
	4	2.6	2.6
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	2.6	2.6

— DC Voltage (2/4) —

SYMBOL	No.	REC	PB
	9	2.4	2.6
	10	2.8	0.1
	11	2.6	2.6
	12	4.9	0.0
	13	4.9	0.0
	14	5.1	5.1
IC8	1	2.9	2.9
	2	2.6	2.6
	3	2.6	2.6
	4	0.0	0.0
	5	2.6	2.6
	6	2.6	2.6
	7	2.6	2.6
	8	5.1	5.1
IC9	1	2.5	2.5
	2	2.6	2.6
	3	2.6	2.6
	4	0.0	0.0
	5	2.4	2.4
	6	2.6	2.6
	7	0.1	0.1
	8	5.1	5.1
IC10	1	2.5	2.5
	2	2.5	2.5
	3	2.5	2.5
	4	0.0	0.0
	5	2.5	2.5
	6	2.5	2.5
	7	2.5	2.5
	8	5.0	5.0
IC11	1	2.6	2.6
	2	2.5	2.5
	3	2.5	2.5
	4	0.0	0.0
	5	2.5	2.5
	6	2.5	2.5
	7	2.7	2.7
	8	5.0	5.0
IC12	1	2.6	2.6
	2	2.6	2.6
	3	2.5	2.5
	4	0.0	0.0
	5	1.1	1.1
	6	1.1	1.1
	7	3.1	3.1
	8	19.0	19.0
IC13	1	4.9	4.9
	2	0.0	0.0
	3	0.1	0.1
	4	0.0	0.0
	5	2.5	2.5
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	0.0	0.0
	12	0.0	0.0
	13	4.9	4.9
	14	4.9	4.9
IC14	1	—	—
	2	—	—
	3	—	—
	4	—	—
	5	—	—
	6	—	—
	7	—	—
	8	—	—
	9	—	—
	10	—	—
	11	—	—
	12	—	—
	13	—	—
	14	—	—
	15	—	—
	16	—	—
	17	—	—
	18	—	—
	19	—	—
	20	—	—
	21	—	—
	22	—	—
	23	—	—
	24	—	—
	25	—	—
	26	—	—
	27	—	—
	28	—	—
	29	—	—
	30	—	—
	31	—	—
	32	—	—
	33	—	—
	34	—	—
	35	—	—
	36	—	—
	37	—	—
	38	—	—
	39	—	—
	40	—	—
	41	—	—
	42	—	—
	43	—	—
	44	—	—
	45	—	—
	46	—	—
	47	—	—
	48	—	—
	49	—	—
	50	—	—
	51	—	—
	52	—	—
	53	—	—
	54	—	—
	55	—	—
	56	—	—
	57	—	—
	58	—	—
	59	—	—
	60	—	—
	61	—	—
	62	—	—
	63	—	—
	64	—	—
	65	—	—
	66	—	—
	67	—	—
	68	—	—
	69	—	—
	70	—	—
	71	—	—
	72	—	—
	73	—	—
	74	—	—
	75	—	—
	76	—	—
	77	—	—
	78	—	—
	79	—	—
	80	—	—
	81	—	—
	82	—	—
	83	—	—
	84	—	—
	85	—	—
	86	—	—
	87	—	—
	88	—	—
	89	—	—
	90	—	—
	91	—	—
	92	—	—
	93	—	—
	94	—	—
	95	—	—
	96	—	—
	97	—	—
	98	—	—
	99	—	—
	100	—	—
IC15	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	4.9	4.9
	6	4.9	4.9
	7	0.0	0.0
	8	4.9	4.9
IC16	1	0.0	0.0
	2	0.0	—
	3	0.1	—
	4	0.1	—
	5	0.1	—
	6	0.1	—
	7	0.1	—
	8	0.1	—
	9	0.1	—
	10	0.0	0.0
	11	0.0	0.5
	12	0.0	2.6
	13	0.0	2.5
	14	0.0	2.7
	15	0.0	2.6
	16	0.0	2.5
	17	0.0	2.5
	18	0.0	2.5
	19	0.0	2.4
	20	4.9	4.9
IC17	1	0.0	0.0
	2	0.0	3.8
	3	0.0	1.3
	4	0.0	2.7
	5	0.0	2.0
	6	0.0	1.8
	7	4.9	4.9
	8	0.0	0.0
	9	4.9	4.9
	10	4.9	4.9
	11	4.9	4.9
	12	4.9	4.4
	13	4.9	4.9
	14	4.9	4.9
	15	4.9	4.9
	16	4.9	4.9
IC18	1	0.0	1.8
	2	0.0	2.4
	3	0.0	2.6
	4	0.0	2.5
	5	0.0	2.7
	6	0.0	2.6
	7	0.0	2.4
	8	0.0	2.5
	9	0.0	2.5
	10	0.0	2.4
	11	0.1	1.8
	12	0.1	—
	13	0.1	0.7
	14	0.0	0.0
	15	0.0	2.3
	16	0.1	—
	17	0.1	2.6
	18	0.1	—
	19	0.1	1.7
	20	0.0	0.0
	21	0.0	2.7
	22	4.9	3.4
	23	0.0	3.1
	24	0.0	2.4
	25	4.8	2.2
	26	0.0	4.0
	27	0.0	1.4
	28	4.9	4.9
IC21	1	0.0	0.0
	2	4.9	4.9
	3	0.0	0.0
	4	0.0	2.5
	5	0.0	2.5
	6	4.9	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	4.9	4.9
	10	0.0	0.0
	11	4.8	4.8
	12	0.0	4.9
	13	0.0	4.9
	14	0.0	0.0
	15	4.9	4.9
	16	0.0	0.0
	17	0.0	0.0
	18	0.0	0.0
	19	0.0	0.0
	20	0.0	0.0
	21	4.9	4.9
	22	0.0	0.0
	23	4.9	4.9
IC21	24	0.1	—
	25	0.1	—
	26	0.1	—
	27	0.1	—
	28	0.1	—
	29	0.1	—
	30	0.1	—
	31	0.1	—
	32	0.0	0.0
	33	0.0	0.0
	34	0.0	0.0
	35	4.9	4.9
	36	4.7	4.7
	37	4.8	4.8
	38	0.0	0.0
	39	4.8	4.8
	40	0.0	4.9
	41	4.8	4.8
	42	0.0	0.0
	43	4.8	4.8
	44	4.9	3.4
IC22	1	3.6	3.6
	2	4.2	4.2
	3	4.2	4.2
	4	12.3	-12.2
	5	4.0	4.0
	6	4.0	—
	7	4.3	4.3
	8	12.7	12.7
IC23	1	2.0	2.0
	2	0.3	0.3
	3	0.3	0.3
	4	12.3	-12.2
	5	2.0	2.0
	6	2.0	2.0
	7	0.3	0.3
	8	12.7	12.7
IC24	1	5.8	5.8
	2	2.5	2.5
	3	2.5	2.5
	4	0.0	0.0
	5	2.5	2.5
	6	2.5	2.5
	7	2.5	2.5
	8	12.7	12.7
IC25	1	—	—
	2	—	—
	3	5.0	5.0
	4	2.6	2.6
	5	2.5	2.5
	6	2.4	2.4
	7	2.5	2.5
	8	2.5	2.5
	9	2.5	2.5
	10	2.5	2.5
	11	2.5	2.5
	12	0.0	0.0
	13	2.5	2.5
	14	—	—
IC26	1	2.6	2.6
	2	2.5	2.5
	3	2.5	2.5
	4	0.0	0.0
	5	2.5	2.5
	6	2.5	2.5
	7	2.5	2.5
	8	5.0	5.0
IC28	1	2.5	2.5
	2	2.5	2.5
	3	2.5	2.5
	4	0.0	0.0
	5	2.5	2.5
	6	2.5	2.5
	7	2.5	2.5
	8	5.0	5.0
IC31	1	0.0	0.0
	2	0.0	0.0
	3	4.9	4.9
	4	0.0	0.0
	5	2.6	2.6
	6	2.3	2.3
	7	0.0	0.0
	8	0.0	0.0

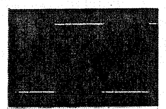
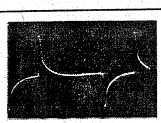
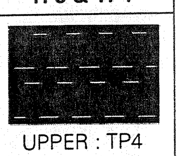
— DC Voltage (3/4) —

SYMBOL	No.	REC	PB
	9	2.5	2.5
	10	2.5	2.5
	11	2.5	2.5
	12	2.5	2.5
	13	5.0	5.0
	14	4.9	4.9
IC32	1	0.1	0.1
	2	0.0	0.0
	3	0.0	0.0
	4	-12.3	-12.3
	5	2.6	2.6
	6	3.0	3.0
	7	-6.5	-6.5
	8	13.5	13.5
IC33	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.1
	5	0.0	0.0
	6	0.0	0.1
	7	0.0	0.1
	8	0.0	0.3
	9	13.5	13.5
IC34	1	0.1	0.1
	2	0.1	0.1
	3	0.1	0.1
	4	-12.3	-12.3
	5	0.2	0.2
	6	0.2	0.2
	7	0.2	0.2
	8	5.0	5.0
IC35	1	0.3	0.3
	2	2.7	2.7
	3	1.8	1.8
	4	0.0	0.0
	5	1.9	1.9
	6	2.7	2.7
	7	0.3	0.3
	8	5.0	5.0
IC36	1	2.5	2.5
	2	0.0	0.0
	3	10.9	10.9
IC37	1	—	—
	2	0.1	0.1
	3	—	—
	4	0.6	0.6
	5	2.3	2.3
	6	2.3	2.3
	7	2.3	2.3
	8	2.3	2.3
	9	2.3	2.3
	10	2.3	2.3
	11	—	—
	12	1.7	1.7
	13	5.0	5.0
	14	3.0	3.0
	15	0.0	0.0
	16	0.1	0.1
	17	1.2	1.2
	18	1.2	1.2
	19	0.0	0.0
	20	0.0	0.0
	21	0.6	0.6
	22	0.1	0.1
	23	—	—
	24	4.1	4.1
IC38	1	—	—
	2	0.2	0.2
	3	—	—
	4	1.8	1.8
	5	2.3	2.3
	6	2.4	2.4
	7	2.4	2.4
	8	2.4	2.4
	9	2.4	2.4
	10	2.4	2.4
	11	—	—
	12	1.7	1.7
	13	5.0	5.0
	14	3.0	3.0
	15	4.9	4.9
	16	0.2	0.2
	17	1.2	1.2
	18	1.2	1.2
	19	0.0	0.0
	20	0.0	0.0
	21	0.6	0.6
	22	0.2	0.2
	23	—	—
	24	4.4	5.4
IC39	1	0.0	0.0
	2	-6.5	-6.5
	3	0.0	0.0
	4	12.4	12.4
	5	13.5	13.5
TRANSISTOR			
Q1	B	2.4	2.4
	C	4.2	4.2
	E	1.8	1.8
Q2	B	4.2	4.2
	C	3.0	3.0
	E	4.8	4.8
Q3	B	3.3	3.3
	C	4.9	4.9
	E	2.8	2.8
Q4	B	.	.
	C	.	.
	E	.	.
Q5	B	.	.
	C	.	.
	E	.	.
Q6	B	.	.
	C	.	.
	E	.	.
Q7	B	4.8	4.8
	C	0.0	0.0
	E	0.0	0.0
Q8	B	3.8	3.8
	C	0.0	0.0
	E	2.2	2.0
Q9	B	3.2	2.7
	C	19.1	18.9
	E	2.6	2.2
Q10	B	2.5	2.1
	C	13.5	13.5
	E	2.0	1.6
Q11	B	0.0	0.0
	C	3.2	3.2
	E	0.0	0.0
Q12	B	4.9	4.9
	C	0.0	0.0
	E	4.9	4.9
Q22	B	.	.
	C	.	.
	E	.	.
Q23	B	0.0	0.0
	C	4.9	4.9
	E	0.0	0.0
Q24	B	0.1	0.1
	C	13.0	13.0
	E	0.2	0.2
Q25	B	13.0	13.0
	C	0.2	0.2
	E	13.5	13.5
Q26	B	12.8	12.8
	C	13.4	13.4
	E	13.5	13.5
Q27	B	18.9	18.9
	C	12.6	12.6
	E	18.9	18.9
Q30	B	18.8	18.8
	C	1.6	1.6
	E	18.9	18.9
Q31	B	18.2	18.2
	C	18.9	18.9
	E	18.9	18.9
Q32	B	18.9	18.9
	C	0.0	0.0
	E	18.9	18.9
Q33	B	4.9	4.9
	C	0.0	0.0
	E	0.0	0.0
Q34	B	0.0	0.0
	C	18.8	18.8
	E	0.0	0.0
Q37	B	0.0	0.0
	C	18.8	18.8
	E	0.0	0.0
Q38	B	4.9	4.9
	C	0.0	0.0
	E	0.0	0.0
Q39	B	0.0	0.0
	C	18.8	18.8
	E	0.0	0.0
Q40	B	18.8	18.8
	C	4.1	4.1
	E	18.8	18.8
Q41	B	0.3	0.3
	C	18.6	18.6
	E	0.0	0.0
Q42	B	4.1	4.1
	C	1.3	1.3
	E	5.0	5.0
Q43	B	18.8	18.8
	C	5.6	5.6
	E	18.9	18.9
Q44	B	0.4	0.4
	C	17.5	16.8
	E	0.0	0.0
Q45	B	5.8	5.2
	C	1.9	1.9
	E	5.0	5.0
CONNECTOR			
CN1	1	2.4	2.4
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	3.1	0.0
	6	0.0	0.0
	7	2.4	2.4
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	0.0	0.0
	12	0.0	0.0
	13	0.0	0.0
	14	0.0	0.0
	15	0.0	0.0
	16	0.0	0.0
	17	0.0	0.0
	18	0.0	0.0
CN2	1	—	2.6
	2	—	2.6
	3	0.0	0.0
CN3	1	2.5	2.5
	2	0.0	0.0
	3	2.5	2.5
	4	5.0	5.0
	5	13.5	13.5
	6	1.9	1.9
	7	4.9	4.9
	8	0.0	0.0
CN4	1	5.1	0.0
	2	2.4	2.4
	3	0.0	0.0
	4	4.9	4.9
	5	4.2	4.2
	6	0.0	0.0
CN5	1	19.0	19.0
	2	19.0	19.0
	3	13.5	13.5
	4	13.5	13.5
	5	0.0	0.0
	6	0.0	0.0
	7	12.3	12.3
	8	0.0	0.0
	9	12.9	12.9
	10	5.2	5.2
CN6	1	13.5	13.5
	2	0.0	0.0
	3	0.0	0.0
	4	2.7	2.7
	5	3.9	3.9
CN7	1	2.4	2.4
	2	0.0	0.0
	3	0.5	0.5
	4	0.0	0.0
	5	0.2	0.2
	6	0.0	0.0
	7	4.0	4.0
	8	0.0	0.0
	9	5.1	0.0
	10	0.0	0.0
	11	2.4	2.4
	12	2.4	2.4
	13	0.2	2.4
	14	—	0.9
	15	3.2	3.2
	16	5.2	5.2
	17	4.1	4.1
	18	5.0	5.0
CN21	1	12.8	12.8
	2	4.9	0.0
	3	0.0	0.0
	4	4.8	4.8
	5	0.0	0.0
CN22	1	4.2	4.2
	2	2.5	2.5
	3	4.0	4.0
	4	5.8	5.8
CN23	1	0.0	0.0
	2	0.0	0.0
CN24	1	0.0	0.0
	2	0.0	0.0
CN25	1	0.0	0.0
	2	0.0	4.9
	3	0.0	0.0
	4	0.0	4.8
	5	0.0	0.0
	6	0.0	0.0
CN26	1	0.3	0.3
	2	0.0	0.0
	3	0.2	—
	4	0.9	—
	5	0.0	0.0
	6	0.0	0.0
	7	1.6	1.6
	8	18.9	18.9
	9	0.0	0.0
CN27	1	0.0	0.0
	2	0.0	0.0
	3	4.8	4.8
	4	0.0	0.0
CN29	1	0.0	3.0
	2	1.7	1.7
	3	0.0	0.0
	4	0.0	0.0
	5	2.3	2.3
	6	2.3	2.3
	7	2.3	2.3
	8	2.3	2.3

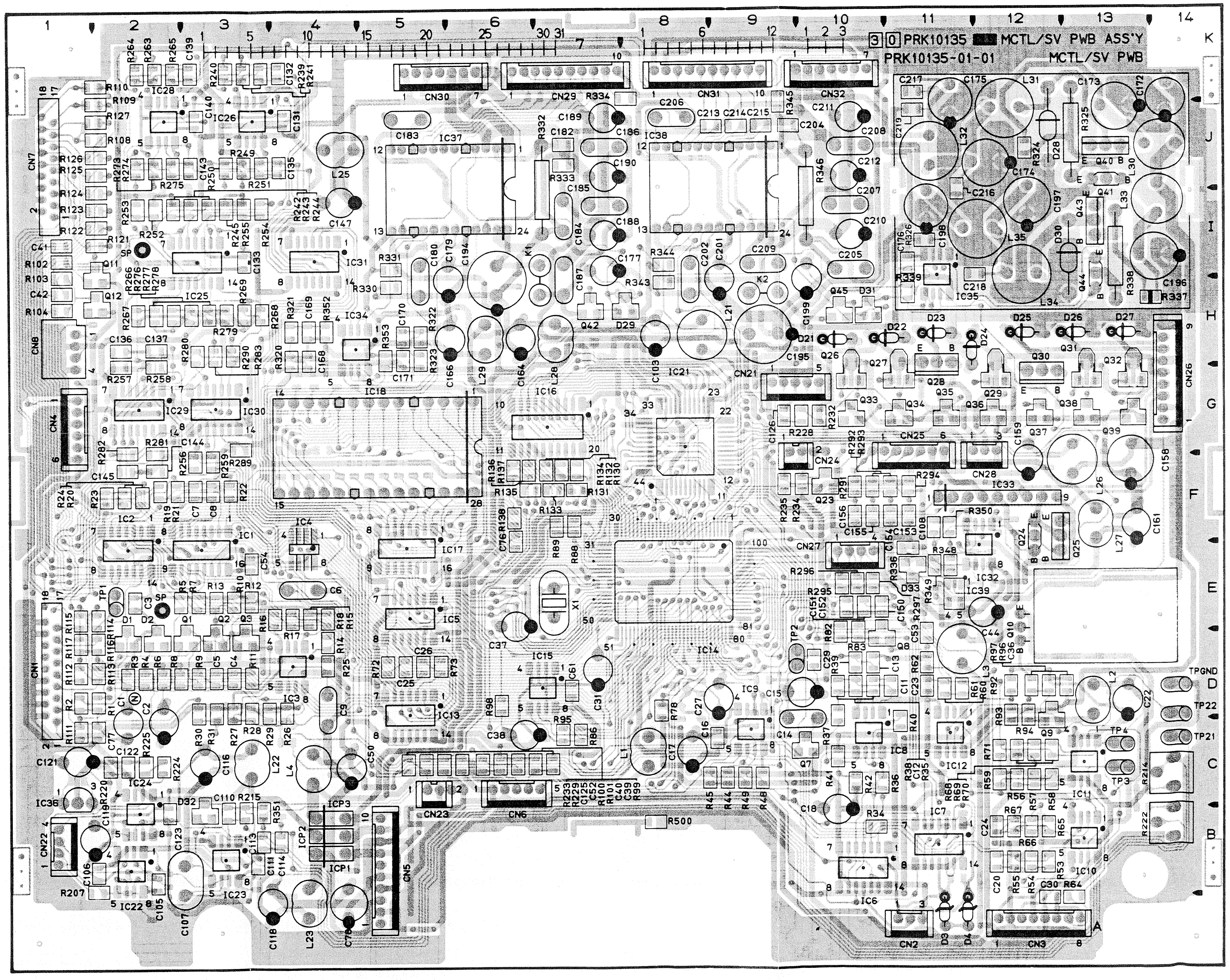
— DC Voltage (4/4) —

SYMB OL N		REC	PB
	9 10	12. 6 0. 0	12. 6 0. 0
CN30	1 2 3 4 5 6 7	5. 0 2. 5 0. 0 2. 5 — — —	5. 0 2. 5 0. 0 2. 5 — — —
CN31	1 2 3 4 5 6 7 8 9 10	4. 9 3. 7 3. 0 1. 7 0. 0 2. 4 2. 4 2. 4 2. 4 2. 4	4. 9 3. 7 3. 0 1. 7 0. 0 2. 4 2. 4 2. 4 2. 4 2. 4
CN32	1 2 3 4 5 6 7	— — — 5. 0 2. 5 0. 0 2. 5	— — — 5. 0 2. 5 0. 0 2. 5

— MAIN WAVEFORMS OF M-CTL/R-SERVO CIRCUIT —

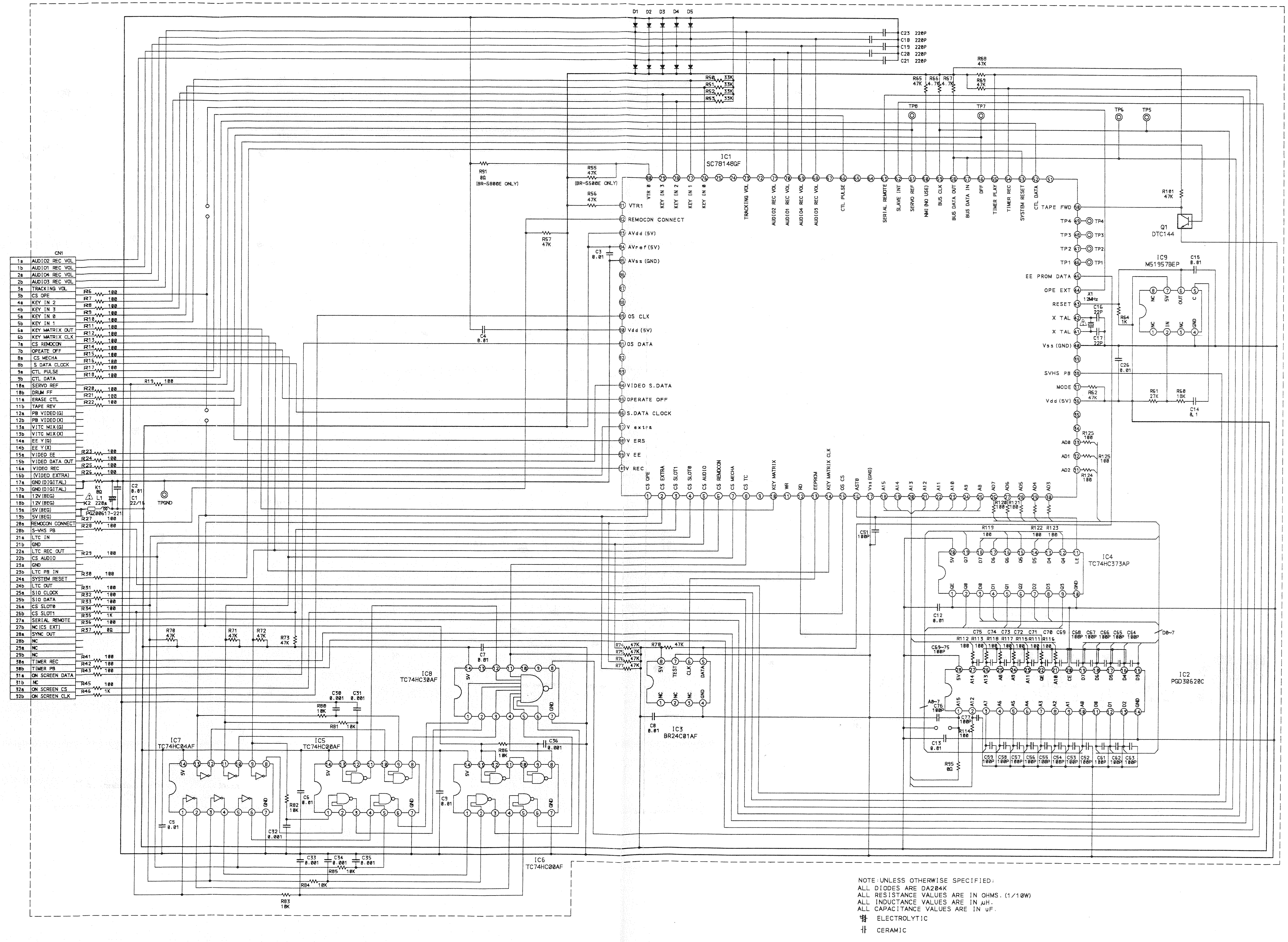
TP1	TP2	TP3 & TP4
		
4.9 Vp-p (25 Hz)	[PB] 2.1 Vp-p (25 HZ)	UPPER : TP4 LOWER : TP3

— PARTS Side —


PRK10135 MCTL/SV PWB ASS'Y
PRK10135-01-01 MCTL/SV PWB
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN21
CN22
CN23
CN24
CN25
CN26
CN27
CN28
CN29
CN30
CN31
CN32
TPGND
TP22
TP21
TP1
TP2
TP3
TP4
IC1
IC14
IC16
IC18
IC21
IC37
IC38
X1
K1
K2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
K
J
I
H
G
F
E
D
C
B
A

(PRK10135-01-01)

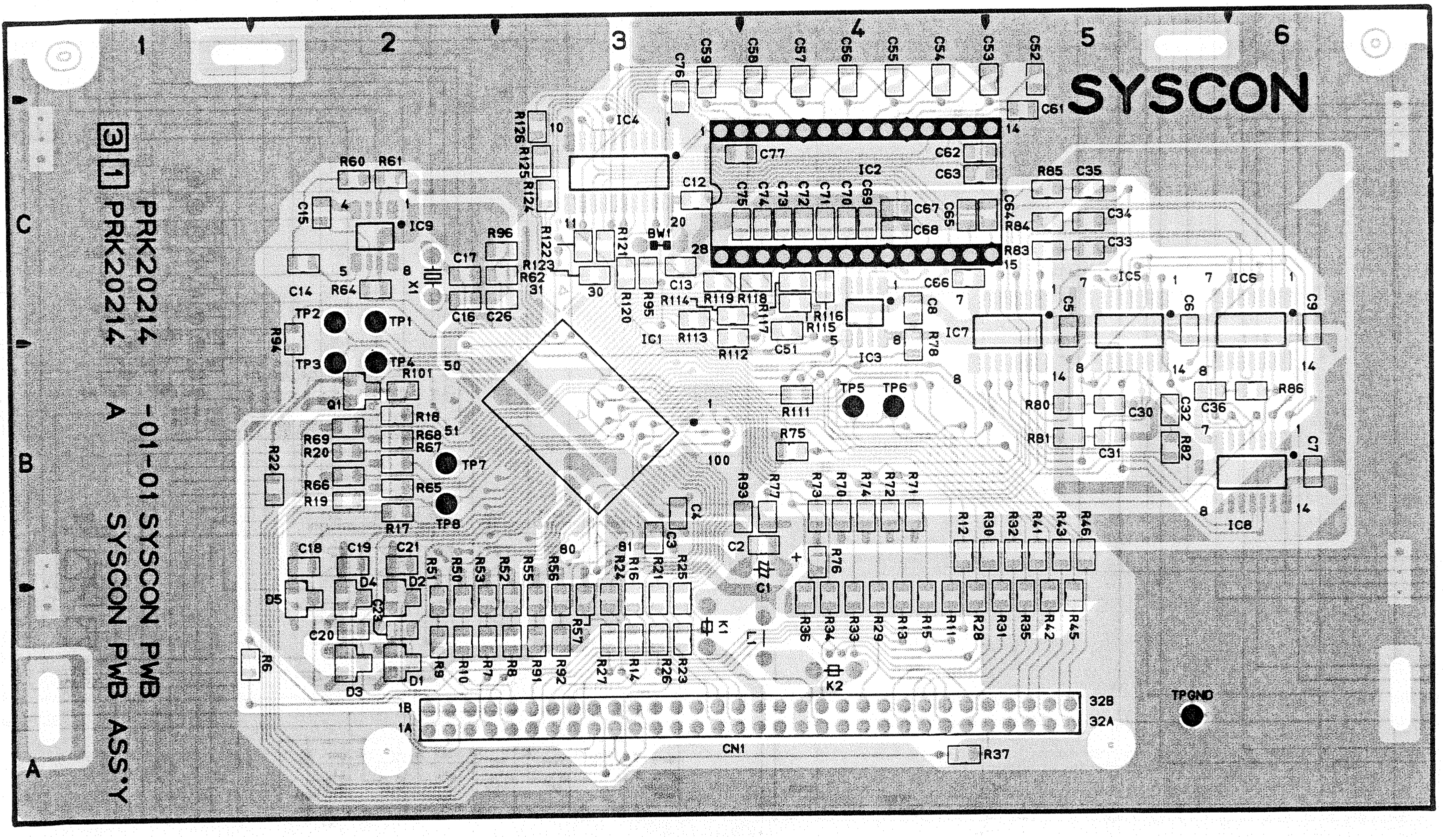
4.39 SYSCON SCHEMATIC DIAGRAM


CN1
1a AUDIO2 REC VOL
1b AUDIO1 REC VOL
2a AUDIO4 REC VOL
2b AUDIO3 REC VOL
3a TRACKING VOL
3b CS OPE
4a KEY IN 2
4b KEY IN 3
5a KEY IN 0
5b KEY IN 1
6a KEY MATRIX OUT
6b KEY MATRIX CLK
7a CS REMOCON
7b OPEATE OFF
8a CS MECHA
8b S DATA CLOCK
9a CTL PULSE
9b CTL DATA
10a SERVO REF
10b DRUM FF
11a ERASE CTL
11b TAPE REV
12a PB VIDEO(G)
12b PB VIDEO(X)
13a VITC MIX(G)
13b VITC MIX(X)
14a EE Y(G)
14b EE Y(X)
15a VIDEO EE
15b VIDEO DATA OUT
16a VIDEO REC
16b (VIDEO EXTRA)
17a GND (DIGITAL)
17b GND (DIGITAL)
18a 12V (BEG)
18b 12V (BEG)
19a 5V (BEG)
19b 5V (BEG)
20a REMOCON CONNECT
20b S-VHS PB
21a LTC IN
21b GND
22a LTC REC OUT
22b CS AUDIO
23a GND
23b LTC PB IN
24a SYSTEM RESET
24b LTC OUT
25a SIO CLOCK
25b SIO DATA
26a CS SLOT0
26b CS SLOT1
27a SERIAL REMOTE
27b NC (CS EXT)
28a SYNC OUT
28b NC
29a NC
29b NC
30a TIMER REC
30b TIMER PB
31a ON SCREEN DATA
31b NC
32a ON SCREEN CS
32b ON SCREEN CLK
R6 100
R7 100
R8 100
R9 100
R10 100
R11 100
R12 100
R13 100
R14 100
R15 100
R16 100
R17 100
R18 100
R19 100
R20 100
R21 100
R22 100
R23 100
R24 100
R25 100
R26 100
K1 0Ω
L1 220µ
K2
PGZ00617-221
C2 0.01
C1 22/16
TPGND
R27 100
R28 100
R29 100
R30 100
R31 100
R32 100
R33 100
R34 100
R35 1K
R36 100
R37 0Ω
R41 100
R42 100
R43 100
R45 100
R46 1K
D1 D2 D3 D4 D5
C23 220P
C18 220P
C19 220P
C20 220P
C21 220P
R50 33K
R51 33K
R52 33K
R53 33K
R68 47K
R65 47K
R66 4.7K
R67 4.7K
R69 47K
TP8
TP7
TP6
TP5
R91 0Ω
(BR-S800E ONLY)
R55 47K
(BR-S500E ONLY)
R56 47K
R57 47K
C3 0.01
C4 0.01
IC1
SC78148GF
VTR 0
KEY IN 3
KEY IN 2
KEY IN 1
KEY IN 0
TRACKING VOL
AUDIO2 REC VOL
AUDIO1 REC VOL
AUDIO4 REC VOL
AUDIO3 REC VOL
CTL PULSE
SERIAL REMOTE
SLAVE INT
SERVO REF
NMI (NO USE)
BUS CLK
BUS DATA OUT
BUS DATA IN
DFF
TIMER PLAY
TIMER REC
SYSTEM RESET
CTL DATA
VTR1
REMOCON CONNECT
AVdd (5V)
AVref (5V)
AVss (GND)
OS CLK
Vdd (5V)
OS DATA
VIDEO S.DATA
OPERATE OFF
S.DATA CLOCK
V extra
V ERS
V EE
V REC
TAPE FWD
TP4
TP3
TP2
TP1
EE PROM DATA
OPE EXT
RESET
X TAL
X TAL
Vss (GND)
SVHS PB
MODE
Vdd (5V)
AD0
AD1
AD2
CS OPE
CS EXTRA
CS SLOT1
CS SLOT0
CS AUDIO
CS REMOCON
CS MECHA
CS TC
KEY MATRIX
WR
RD
EEPROM
KEY MATRIX CLK
OS CS
ASTB
Vss (GND)
A15
A14
A13
A12
A11
A10
A9
A8
AD7
AD6
AD5
AD4
AD3
X1 12MHz
C16 22P
C17 22P
R64 1K
C26 0.01
R62 47K
R125 100
R124 100
R101 47K
Q1 DTC144
IC9 M51957BEP
C15 0.01
NC 5V OUT C
NC IN NC GND
R61 27K
R60 10K
C14 0.1
C51 100P
R120 100
R121 100
R119 100
R122 100
R123 100
IC4
TC74HC373AP
5V Q7 D7 D6 Q6 Q5 D5 D4 Q4 LE
OE Q0 D0 D1 Q1 Q2 D2 D3 Q3 GND
C12 0.01
C75 C74 C73 C72 C71 C70 C69
R112 R113 R110 R117 R115 R111 R116
C60 C67 C66 C65 C64 100P 100P 100P 100P 100P
D0-7
C69-75 100P
IC2
PQD30620C
5V A14 A13 A8 A9 A11 OE A10 CE D7 D6 D5 D4 D3
A15 A12 A7 A6 A5 A4 A3 A2 A1 A0 D0 D1 D2 GND
A0-7
C76 100P
C77 100P
R114 100
C13 0.01
R95 0Ω
C59 C58 C57 C56 C55 C54 C53 C52 C61 C62 C63 100P
R70 47K
R71 47K
R72 47K
R73 47K
R74 47K
R75 47K
R76 47K
R77 47K
R78 47K
IC3
BR24C01AF
5V TEST CLK DATA
NC NC NC GND
C8 0.01
IC8
TC74HC30AF
C7 0.01
C30 0.001
C31 0.001
R80 10K
R81 10K
IC7
TC74HC04AF
IC5
TC74HC00AF
R82 10K
C6 0.01
C5 0.01
C32 0.001
R86 10K
C36 0.001
C9 0.01
IC6
TC74HC00AF
C33 0.001
C34 0.001
C35 0.001
R89 10K
R84 10K
R83 10K
6
5
4
3
2
1
A
B
C
E
F
G
H

NOTE:UNLESS OTHERWISE SPECIFIED:
ALL DIODES ARE DA204K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN µH.
ALL CAPACITANCE VALUES ARE IN uF.
ELECTROLYTIC
CERAMIC

4.40 SYSCON CIRCUIT BOARD

— SOLDER Side —

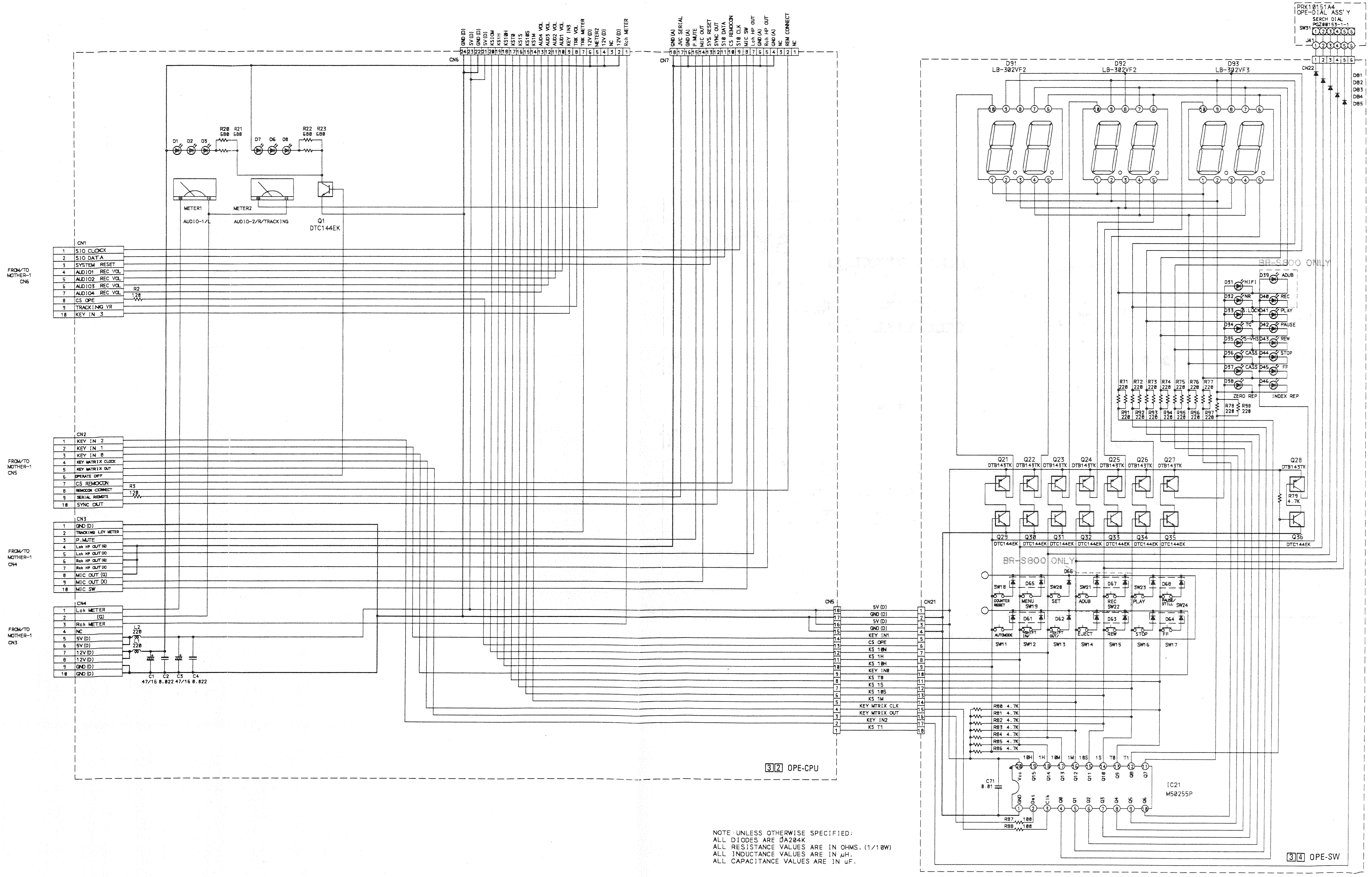

SYSCON
3 1 PRK20214 -01-01 SYSCON PWB
PRK20214 A SYSCON PWB ASS'Y
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
CN1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TPGND
Q1
X1
K1
K2
L1
D1
D2
D3
D4
D5
1A
1B
32A
32B
A
B
C
1
2
3
4
5
6

(PRK20214-01-01)

— DC Voltage —

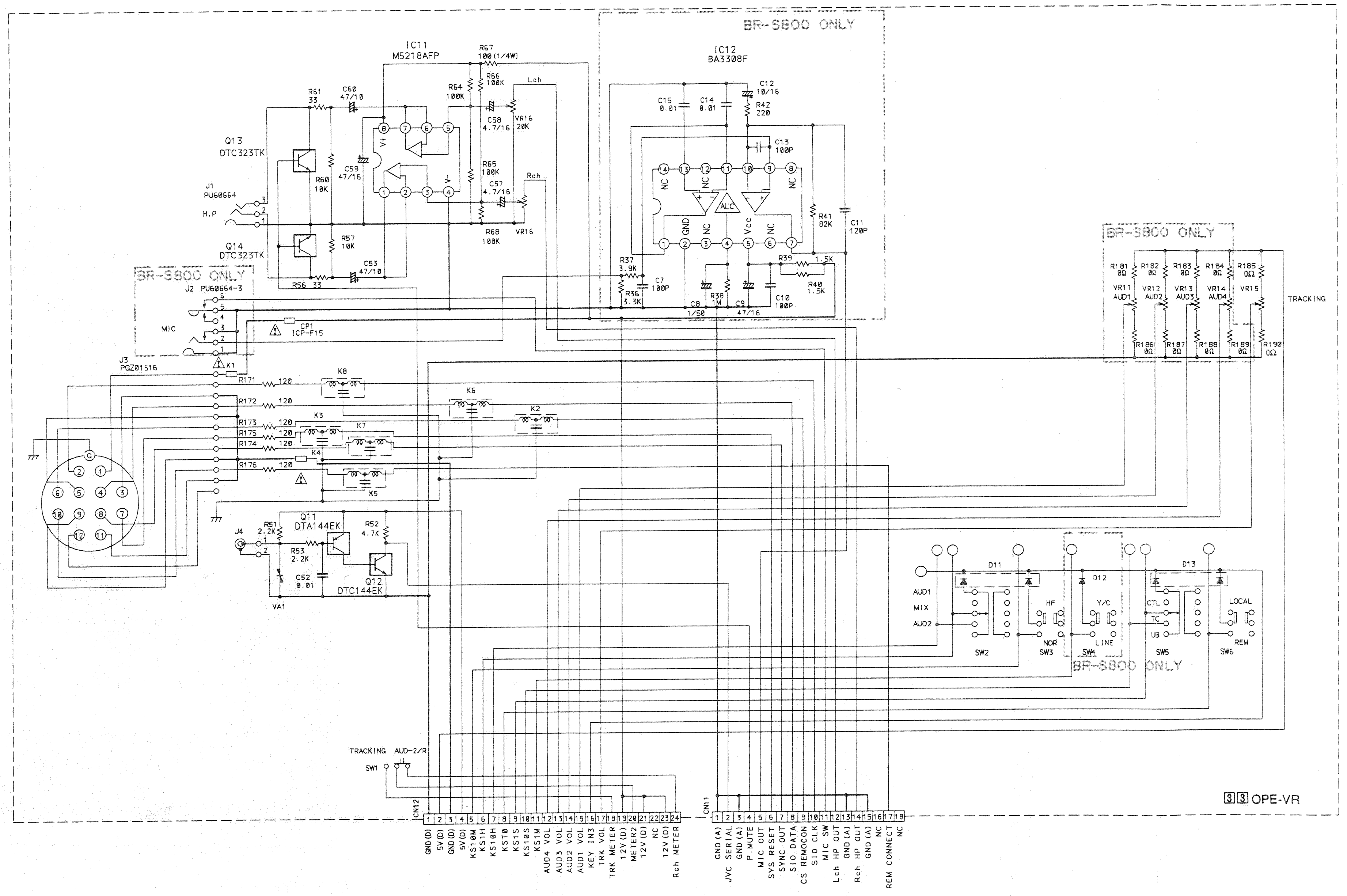
SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC2	1	2.3	2.3
	2	2.2	2.2
	3	2.7	2.7
	4	1.2	1.2
	5	2.7	2.7
	6	2.7	2.7
	7	2.4	2.4
	8	2.8	2.8
	9	2.6	2.6
	10	2.5	2.5
	11	2.1	2.1
	12	2.2	2.2
	13	2.3	2.3
	14	0.0	0.0
	15	2.2	2.2
	16	2.0	2.0
	17	2.5	2.5
	18	1.6	1.6
	19	2.1	2.1
	20	0.0	0.0
	21	1.9	1.9
	22	3.5	3.5
	23	3.5	3.5
	24	2.6	2.6
	25	3.0	3.0
	26	3.4	3.4
	27	3.3	3.3
	28	5.2	5.2
IC3	1	0.1	0.1
	2	0.1	0.1
	3	0.1	0.1
	4	0.0	0.0
	5	0.0	0.0
	6	5.2	5.2
	7	0.0	0.0
	8	5.2	5.2
IC4	1	0.0	0.0
	2	2.5	2.5
	3	2.1	2.1
	4	2.1	2.1
	5	2.6	2.6
	6	2.8	2.8
	7	2.3	2.3
	8	2.2	2.2
	9	2.6	2.6
	10	0.0	0.0
	11	0.4	0.4
	12	2.7	2.7
	13	2.0	2.0
	14	2.5	2.5
	15	2.9	2.9
	16	1.6	1.6
	17	1.6	1.6
	18	2.2	2.2
	19	2.2	2.2
	20	0.0	0.0
IC5	1	5.2	5.2
	2	0.0	0.0
	3	5.2	5.2
	4	2.7	2.7
	5	2.5	2.5
	6	5.2	5.2
	7	0.0	0.0
	8	5.2	5.2
	9	5.2	5.2
	10	0.0	0.0
	11	5.2	5.2
	12	3.2	3.2
	13	2.0	2.0
	14	5.2	5.2
IC6	1	0.0	0.0
	2	5.2	5.2
	3	5.2	5.2
	4	0.0	0.0
	5	5.2	5.2
	6	5.2	5.2
	7	0.0	0.0
	8	5.2	5.2
	9	5.2	5.2
	10	0.0	0.0
	11	0.0	0.0
	12	5.2	5.2
	13	5.2	5.2
	14	5.2	5.2
IC7	1	5.2	5.2
	2	0.0	0.0
	3	5.2	5.2
	4	0.0	0.0
	5	2.4	2.4
	6	2.7	2.7
	7	0.0	0.0
	8	0.0	0.0
	9	5.2	5.2
	10	2.0	2.0
	11	3.2	3.2
	12	0.0	0.0
	13	5.2	5.2
	14	5.2	5.2
IC8	1	5.2	5.2
	2	5.2	5.2
	3	5.2	5.2
	4	5.2	5.2
	5	5.2	5.2
	6	5.2	5.2
	7	0.0	0.0
	8	0.0	0.0
	9	0.0	0.0
	10	0.0	0.0
	11	5.2	5.2
	12	5.2	5.2
	13	0.0	0.0
	14	0.0	0.0
IC9	1	0.0	0.0
	2	—	—
	3	0.0	0.0
	4	0.0	0.0
	5	—	—
	6	5.2	5.2
	7	5.2	5.2
	8	0.0	0.0
TRANSISTOR			
Q1	B	0.0	0.0
	C	5.2	5.2
	E	0.0	0.0
CONNECTOR			
CN1	1A	2.6	2.6
	1B	2.5	2.5
	2A	2.6	2.6
	2B	2.6	2.6
	3A	2.6	2.6
	3B	0.0	0.0
	4A	1.2	1.2
	4B	0.7	0.7
	5A	0.0	0.0
	5B	0.0	0.0
	6A	0.1	0.1
	6B	0.7	0.7
	7A	5.2	5.2
	7B	5.1	5.1
	8A	3.2	3.2
	8B	0.0	0.0
	9A	0.2	0.2
	9B	—	—
	10A	2.4	2.4
	10B	2.4	2.4
	11A	5.1	5.1
	11B	0.0	0.0
	12A	0.0	0.0
	12B	0.0	0.0
	13A	0.0	0.0
	13B	0.0	0.0
	14A	0.0	0.0
	14B	0.0	0.0
	15A	5.1	5.1
	15B	0.0	0.0
	16A	5.1	5.1
	16B	5.2	5.2
	17A	0.0	0.0
	17B	0.0	0.0
	18A	12.9	12.9
	18B	12.9	12.9
	19A	5.2	5.2
	19B	5.2	5.2
	20A	5.2	5.2
	20B	4.1	4.1
	21A	0.0	0.0
	21B	0.0	0.0
	22A	0.0	0.0
	22B	2.4	2.4
	23A	0.0	0.0
	23B	0.0	0.0
	24A	5.2	5.2
	24B	5.3	5.3
	25A	5.0	5.0
	25B	4.2	4.2
	26A	5.2	5.2
	26B	5.2	5.2
	27A	5.1	5.1
	27B	5.2	5.2
	28A	2.4	2.4
	28B	0.0	0.0
	29A	0.0	0.0
	29B	0.0	0.0
	30A	5.2	5.2
	30B	5.2	5.2
	31A	0.6	0.6
	31B	0.0	0.0
	32A	—	—
	32B	4.8	4.8

4.41 OPERATION SCHEMATIC DIAGRAM
— OPE-CPU, OPE-SW, DPE-DIAL —


CN6
GND (D)
5V (D)
GND (D)
5V (D)
KS10M
KS1H
KS10H
KST0
KS1S
KS10S
KS1M
AUD4 VOL
AUD3 VOL
AUD2 VOL
AUD1 VOL
KEY IN3
TRK VOL
TRK METER
12V (D)
METER2
12V (D)
NC
12V (D)
Rch METER
CN7
GND (A)
JVC SERIAL
GND (A)
P.MUTE
MIC OUT
SYS RESET
SYNC OUT
S10 DATA
CS REMOCON
S10 CLK
MIC SW
Lch HP OUT
GND (A)
Rch HP OUT
GND (A)
NC
REM CONNECT
NC
D1 D2 D3
R20 680
R21 680
D7 D6 D8
R22 680
R23 680
METER1
AUDIO-1/L
METER2
AUDIO-2/R/TRACKING
Q1
DTC144EK
FROM/TO MOTHER-1 CN6
CN1
1 SIO CLOCK
2 SIO DATA
3 SYSTEM RESET
4 AUDIO1 REC VOL
5 AUDIO2 REC VOL
6 AUDIO3 REC VOL
7 AUDIO4 REC VOL
8 CS OPE
9 TRACKING VR
10 KEY IN 3
R2 120
FROM/TO MOTHER-1 CN5
CN2
1 KEY IN 2
2 KEY IN 1
3 KEY IN 0
4 KEY MATRIX CLOCK
5 KEY MATRIX OUT
6 OPERATE OFF
7 CS REMOCON
8 REMOCON CONNECT
9 SERIAL REMOTE
10 SYNC OUT
R3 120
FROM/TO MOTHER-1 CN4
CN3
1 GND (D)
2 TRACKING LEV METER
3 P.MUTE
4 Lch HP OUT (G)
5 Lch HP OUT (X)
6 Rch HP OUT (G)
7 Rch HP OUT (X)
8 MIC OUT (G)
9 MIC OUT (X)
10 MIC SW
FROM/TO MOTHER-1 CN3
CN4
1 Lch METER
2 (G)
3 Rch METER
4 NC
5 5V (D)
6 5V (D)
7 12V (D)
8 12V (D)
9 GND (D)
10 GND (D)
L2 220
L1 220
C1 47/16
C2 0.022
C3 47/16
C4 0.022
CN5
CN21
5V (D)
GND (D)
5V (D)
GND (D)
KEY IN1
CS OPE
KS 10M
KS 1H
KS 10H
KEY IN0
KS T0
KS 1S
KS 10S
KS 1M
KEY MTRIX CLK
KEY MTRIX OUT
KEY IN2
KS T1
3 2 OPE-CPU
PRK10151A4
OPE-DIAL ASS'Y
SERCH DIAL
PGZ00153-1-1
SW31
J41
CN22
D81
D82
D83
D84
D85
D91
LB-302VF2
D92
LB-302VF2
D93
LB-302VF3
BR-S800 ONLY
D31 HIFI
D32 NR
D33 S.LOCK
D34 TC
D35 S-VHS
D36 CASS
D37 CASS
D38
ZERO REP
D39 ADUB
D40 REC
D41 PLAY
D42 PAUSE
D43 REW
D44 STOP
D45 FF
D46
INDEX REP
R71 220
R72 220
R73 220
R74 220
R75 220
R76 220
R77 220
R91 220
R92 220
R93 220
R94 220
R95 220
R96 220
R97 220
R78 220
R98 220
Q21 DTB143TK
Q22 DTB143TK
Q23 DTB143TK
Q24 DTB143TK
Q25 DTB143TK
Q26 DTB143TK
Q27 DTB143TK
Q28 DTB143TK
R79 4.7K
Q29 DTC144EK
Q30 DTC144EK
Q31 DTC144EK
Q32 DTC144EK
Q33 DTC144EK
Q34 DTC144EK
Q35 DTC144EK
Q36 DTC144EK
BR-S800 ONLY
D66
SW18 COUNTER RESET
D65
MENU SW19
SW20 SET
SW21 ADUB
D67
REC SW22
SW23 PLAY
D68
PAUSE/STILL SW24
AUTOMODE
D61
+SHIFT IN/
D62
-SHIFT OUT/
EJECT
D63
REW
STOP
D64
FF
SW11
SW12
SW13
SW14
SW15
SW16
SW17
R80 4.7K
R81 4.7K
R82 4.7K
R83 4.7K
R84 4.7K
R85 4.7K
R86 4.7K
10H 1H 10M 1M 10S 1S T0 T1
Vcc Q15 Q14 Q13 Q12 Q11 Q10 Q9 Q8 Q7
GND Dat Clk Q0 Q1 Q2 Q3 Q4 Q5 Q6
C71 0.01
IC21
M50255P
R87 100
R88 100
3 4 OPE-SW
6 5 4 3 2 1
A B C E F G H

NOTE: UNLESS OTHERWISE SPECIFIED:
ALL DIODES ARE DA204K
ALL RESISTANCE VALUES ARE IN OHMS. (1/10W)
ALL INDUCTANCE VALUES ARE IN μH.
ALL CAPACITANCE VALUES ARE IN uF.

— OPE-VR —

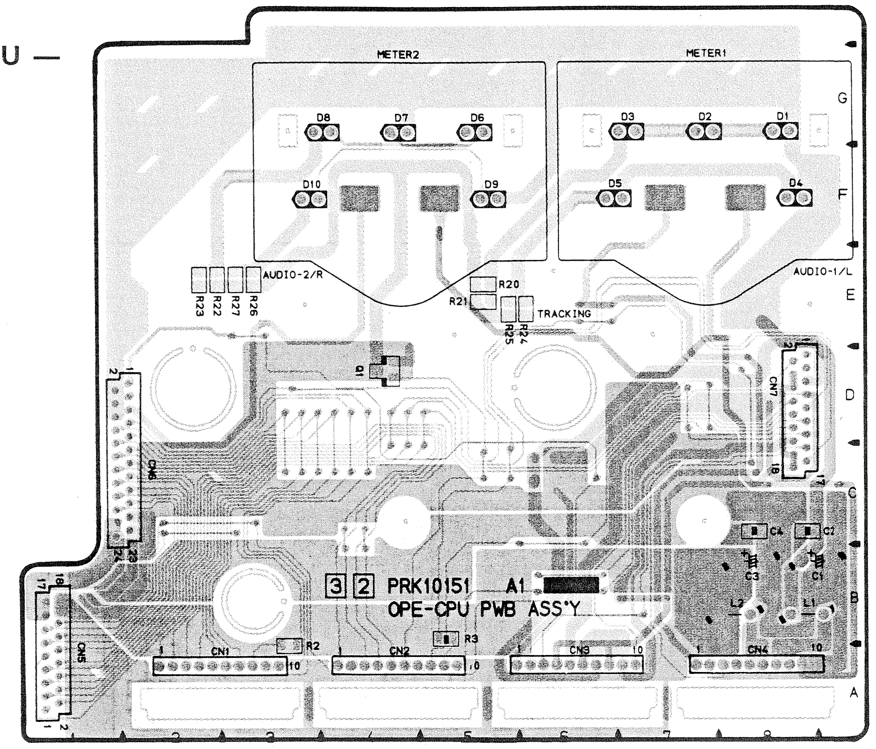

BR-S800 ONLY
IC11
M5218AFP
IC12
BA3308F
R67
100(1/4W)
R66
100K
R64
100K
Lch
R61
33
C60
47/10
C58
4.7/16
VR16
20K
Q13
DTC323TK
C59
47/16
R60
10K
R65
100K
C57
4.7/16
Rch
J1
PU60664
H.P
R68
100K
VR16
Q14
DTC323TK
R57
10K
C53
47/10
R56
33
C15
0.01
C14
0.01
C12
10/16
R42
220
C13
100P
NC
GND
ALC
Vcc
R41
82K
C11
120P
R37
3.9K
C7
100P
R36
3.3K
C8
1/50
R38
1M
C9
47/16
C10
100P
R39
1.5K
R40
1.5K
J2
PU60664-3
MIC
CP1
ICP-F15
J3
PGZ01516
K1
R171
120
R172
120
R173
120
R175
120
R174
120
R176
120
K8
K6
K2
K3
K7
K4
K5
J4
R51
2.2K
Q11
DTA144EK
R52
4.7K
R53
2.2K
C52
0.01
Q12
DTC144EK
VA1
R181
0Ω
R182
0Ω
R183
0Ω
R184
0Ω
R185
0Ω
VR11
AUD1
VR12
AUD2
VR13
AUD3
VR14
AUD4
VR15
TRACKING
R186
0Ω
R187
0Ω
R188
0Ω
R189
0Ω
R190
0Ω
D11
D12
D13
AUD1
MIX
AUD2
SW2
HF
NOR
SW3
Y/C
LINE
SW4
CTL
TC
UB
SW5
LOCAL
REM
SW6
TRACKING
AUD-2/R
SW1
CN12
GND(D)
5V(D)
GND(D)
5V(D)
KS10M
KS1H
KS10H
KST0
KS1S
KS10S
KS1M
AUD4 VOL
AUD3 VOL
AUD2 VOL
AUD1 VOL
KEY IN3
TRK VOL
TRK METER
12V(D)
METER2
12V(D)
NC
12V(D)
Rch METER
CN11
GND(A)
JVC SERIAL
GND(A)
P.MUTE
MIC OUT
SYS RESET
SYNC OUT
SIO DATA
CS REMOCON
SIO CLK
MIC SW
Lch HP OUT
GND(A)
Rch HP OUT
GND(A)
NC
REM CONNECT
NC
33 OPE-VR

— DC Voltage —

SYMBOL	No.	REC	PB
INTEGRATED CIRCUIT			
IC11	1	6.3	6.3
	2	6.3	6.3
	3	6.2	6.3
	4	0.0	0.0
	5	6.2	6.2
	6	6.2	6.3
	7	6.2	6.3
	8	12.5	12.5
IC12	1	1.5	1.5
	2	0.0	0.0
	3	0.0	0.0
	4	0.0	0.0
	5	9.2	9.3
	6	0.0	0.0
	7	1.9	1.8
	8	0.0	0.0
	9	0.0	0.0
	10	1.8	1.8
	11	1.5	1.5
	12	0.0	0.0
	13	0.0	0.0
	14	0.0	0.0
IC21	1	0.0	0.0
	2	0.1	0.1
	3	0.7	0.7
	4	—	—
	5	—	—
	6	—	—
	7	—	—
	8	—	—
	9	—	—
	10	—	—
	11	2.2	2.5
	12	0.6	0.6
	13	0.5	0.5
	14	0.5	0.5
	15	0.5	0.5
	16	0.5	0.5
	17	0.5	0.5
	18	0.5	0.5
	19	0.5	0.5
	20	5.1	5.2
TRANSISTOR			
Q1	B	.	.
	C	.	.
	E	.	.
Q11	B	5.1	5.2
	C	0.0	0.0
	E	5.2	5.2
Q12	B	0.0	0.0
	C	5.1	5.2
	E	0.0	0.0
Q13	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q14	B	0.0	0.0
	C	0.0	0.0
	E	0.0	0.0
Q21	B	4.1	4.1
	C	3.5	3.6
	E	5.1	5.2
Q22	B	4.1	4.1
	C	3.8	3.5
	E	5.2	5.2
Q23	B	4.1	4.1
	C	3.7	3.0
	E	5.2	5.2
Q24	B	4.1	4.1
	C	3.5	3.3
	E	5.2	5.2
Q25	B	4.1	4.1
	C	3.3	3.3
	E	5.2	5.2
Q26	B	4.1	4.1
	C	3.1	3.1
	E	5.2	5.2
Q27	B	4.1	4.1
	C	3.6	3.2
	E	5.2	5.2
Q28	B	4.1	4.1
	C	3.4	3.0
	E	5.2	5.2
Q29	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q30	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q31	B	0.4	0.5
	C	4.1	4.1
	E	0.0	0.0
Q32	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q33	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q34	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q35	B	0.5	0.5
	C	4.1	4.1
	E	0.0	0.0
Q36	B	0.6	0.6
	C	4.1	4.1
	E	0.0	0.0
CONNECTOR			
CN1	1	5.0	5.0
	2	4.3	4.1
	3	5.2	5.2
	4	2.3	2.3
	5	2.6	2.6
	6	2.3	2.3
	7	1.3	1.3
	8	0.0	0.0
	9	3.7	3.5
	10	1.2	1.2
CN2	1	0.8	1.2
	2	0.0	0.0
	3	0.0	0.0
	4	0.7	0.7
	5	0.1	0.1
	6	5.1	5.1
	7	5.2	5.2
	8	5.2	5.2
	9	5.2	0.0
	10	2.4	2.5
CN3	1	0.0	0.0
	2	0.0	0.9
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	0.0	0.0
	9	1.9	1.8
	10	11.3	11.3
CN4	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	5.3	5.3
	5	5.2	5.2
	6	5.2	5.2
	7	12.9	12.9
	8	12.9	12.9
	9	0.0	0.0
	10	0.0	0.0
CN5	1	0.0	0.0
	2	0.8	1.1
	3	0.1	0.1
	4	0.7	0.8
	5	0.5	0.5
	6	0.5	0.5
	7	0.5	0.5
	8	0.0	0.5
	9	0.5	0.0
	10	0.5	0.5
	11	0.5	0.5
	12	0.5	0.5
	13	0.0	0.0
	14	0.0	0.0
	15	0.0	0.0
	16	5.1	5.2
	17	0.0	0.0
	18	5.2	5.2
IC6	1	0.0	0.0
	2	12.8	12.9
	3	0.0	0.0
	4	12.8	12.9
	5	0.0	0.0
	6	12.8	12.9
	7	0.0	0.8
	8	3.5	3.5
	9	1.2	1.2
	10	2.3	2.3
	11	2.6	2.6
	12	2.3	2.3
	13	1.3	1.3
	14	0.5	0.5
	15	0.5	0.5
	16	0.5	0.5
	17	0.5	0.5
	18	0.5	0.5
	19	0.5	0.5
	20	0.5	0.5
	21	5.2	5.2
	22	0.0	0.0
	23	5.2	5.2
	24	0.0	0.0
CN7	1	0.0	0.0
	2	5.2	5.2
	3	0.0	0.0
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.0	0.0
	8	11.3	11.3
	9	5.0	5.0
	10	5.2	5.2
	11	4.2	4.2
	12	2.4	2.5
	13	5.2	5.2
	14	1.8	1.8
	15	0.0	0.0
	16	0.0	0.0
	17	5.1	5.2
	18	0.0	0.0
IC11	1	0.0	0.0
	2	5.1	5.2
	3	0.0	0.0
	4	0.0	0.0
	5	1.8	1.8
	6	5.2	5.2
	7	2.4	2.5
	8	4.2	4.2
	9	5.2	5.2
	10	5.0	5.0
	11	11.3	11.3
	12	0.0	0.0
	13	0.0	0.0
	14	0.0	0.0
	15	0.0	0.0
	16	0.0	0.0
	17	5.2	5.2
	18	0.0	0.0
CN12	1	0.0	0.0
	2	5.2	5.2
	3	0.0	0.0
	4	5.2	5.2
	5	0.5	0.5
	6	0.5	0.5
	7	0.5	0.5
	8	0.5	0.5
	9	0.5	0.5
	10	0.5	0.5
	11	0.5	0.5
	12	1.3	1.3
	13	2.3	2.3
	14	2.6	2.6
	15	2.3	2.3
	16	1.2	1.2
	17	3.5	3.5
	18	0.0	0.8
	19	12.8	12.9
	20	0.0	0.0
	21	12.8	12.9
	22	0.0	0.0
	23	12.8	12.9
	24	0.0	0.0
CN21	1	5.2	5.2
	2	0.0	0.0
	3	5.1	5.2
	4	0.0	0.0
	5	0.0	0.0
	6	0.0	0.0
	7	0.5	0.5
	8	0.5	0.5
	9	0.5	0.5
	10	0.0	0.0
	11	0.5	0.5
	12	0.5	0.5
	13	0.5	0.5
	14	0.5	0.5
	15	0.7	0.8
	16	0.1	0.1
	17	0.8	1.1
	18	0.0	0.0
CN22	1	0.8	1.1
	2	1.8	1.1
	3	0.8	1.8
	4	1.8	2.2
	5	2.0	1.2
	6	0.8	1.1

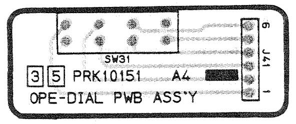
4.42 OPERATION CIRCUIT BOARD

— OPE-CPU —


METER2
METER1
AUDIO-2/R
AUDIO-1/L
TRACKING
3 2 PRK10151 A1
OPE-CPU PWB ASS'Y
CN1
CN2
CN3
CN4
CN5
CN6
CN7

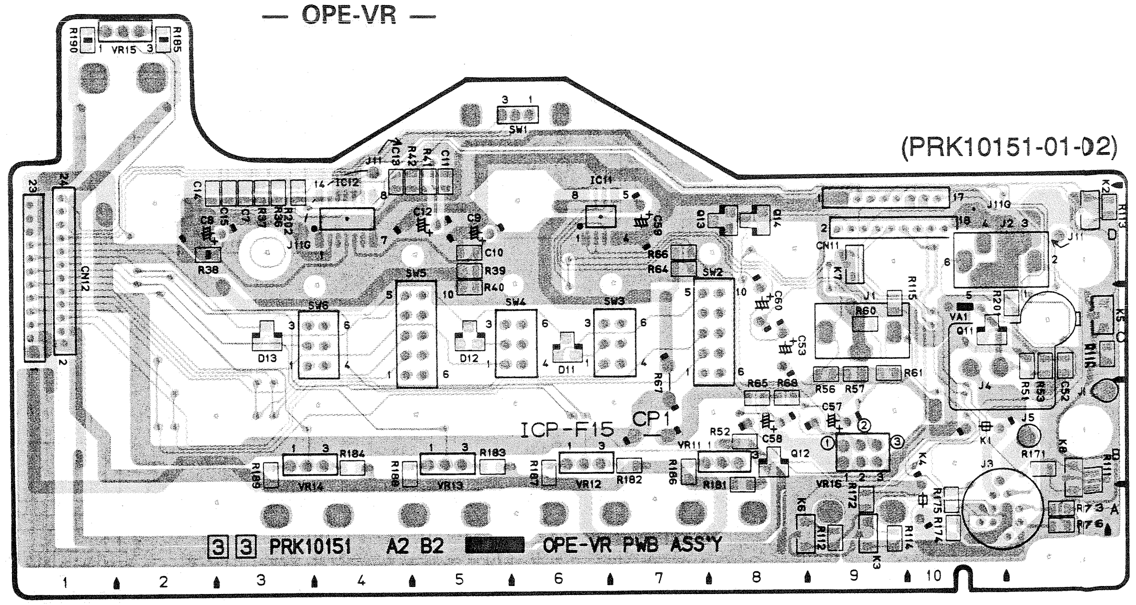
(PRK10151-01-02)

— OPE-DIAL —


SW31
J41
3 5 PRK10151 A4
OPE-DIAL PWB ASS'Y

(PRK10151-01-02)

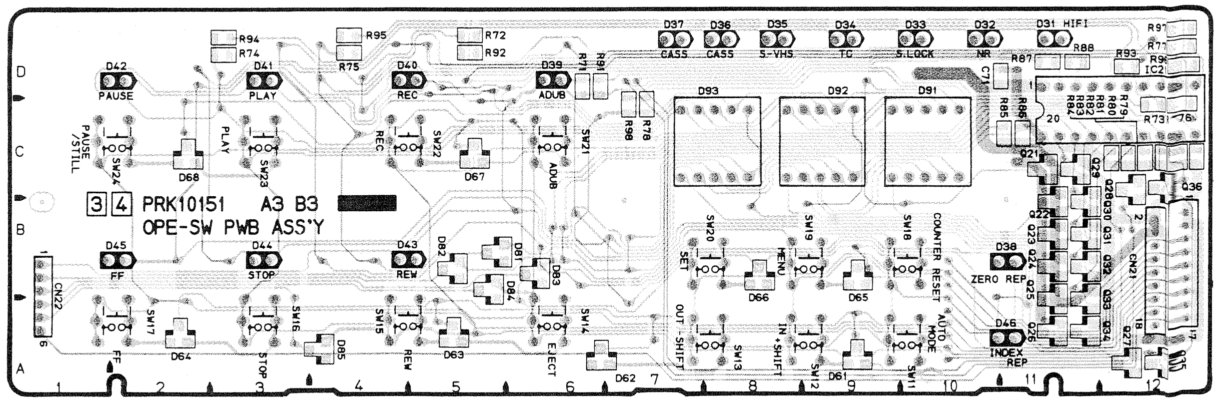
— OPE-VR —


VR15
SW1
IC11
ICP-F15
CP1
VR14
VR13
VR12
3 3 PRK10151 A2 B2
OPE-VR PWB ASS'Y
CN11
CN12

(PRK10151-01-02)

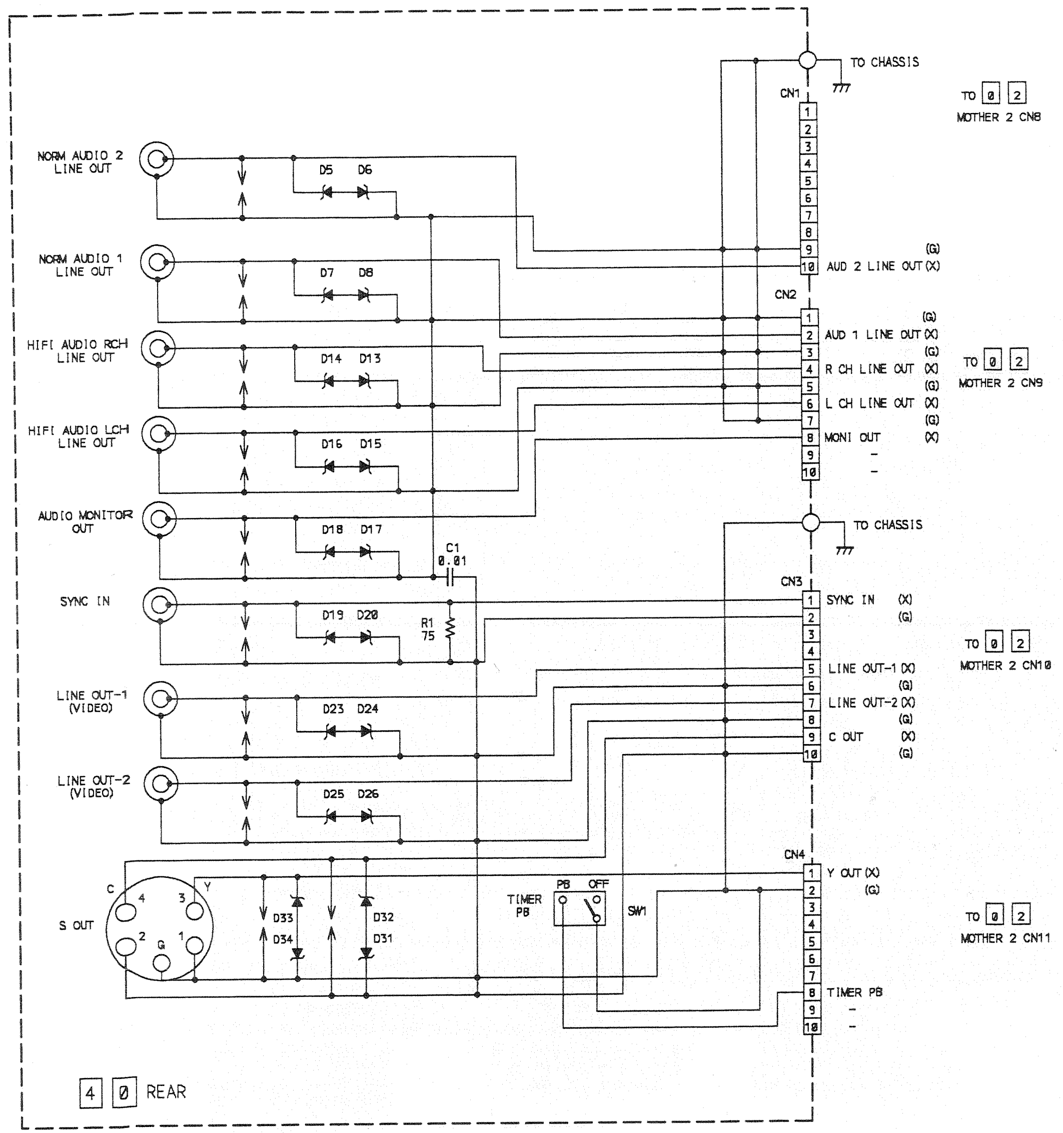
— OPE-SW —

(PRK10151-01-02)


CASS
CASS
S-VHS
TC
S.LOCK
NR
HIFI
PAUSE
PLAY
REC
AUDB
PAUSE /STILL
3 4 PRK10151 A3 B3
OPE-SW PWB ASS'Y
FF
STOP
REW
SET
ZERO REP
INDEX REP
OUT-SHIFT
IN-SHIFT
COUNTER RESET
AUTO MODE
EJECT
CN22

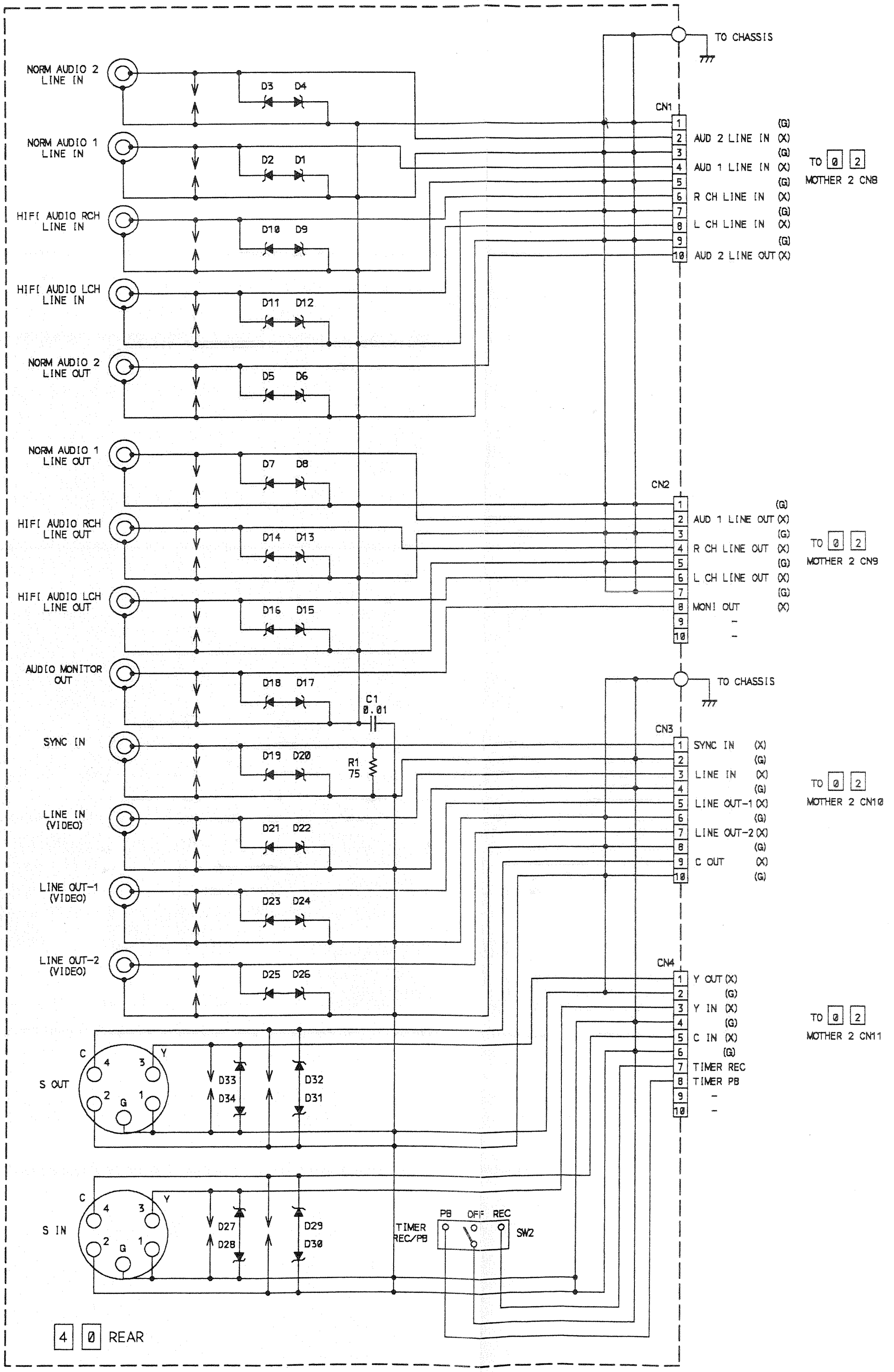
4.43 REAR SCHEMATIC DIAGRAM

— BR-S500E —


TO CHASSIS
CN1
TO 0 2 MOTHER 2 CN8
NORM AUDIO 2 LINE OUT
D5 D6
NORM AUDIO 1 LINE OUT
D7 D8
AUD 2 LINE OUT (X)
(G)
CN2
AUD 1 LINE OUT (X)
R CH LINE OUT (X)
L CH LINE OUT (X)
MONI OUT (X)
TO 0 2 MOTHER 2 CN9
HIFI AUDIO RCH LINE OUT
D14 D13
HIFI AUDIO LCH LINE OUT
D16 D15
AUDIO MONITOR OUT
D18 D17
C1 0.01
TO CHASSIS
CN3
SYNC IN
D19 D20
R1 75
SYNC IN (X)
LINE OUT-1 (X)
LINE OUT-2 (X)
C OUT (X)
TO 0 2 MOTHER 2 CN10
LINE OUT-1 (VIDEO)
D23 D24
LINE OUT-2 (VIDEO)
D25 D26
CN4
S OUT
C Y G
D33 D34 D32 D31
TIMER PB
PB OFF
SW1
Y OUT (X)
TIMER PB
TO 0 2 MOTHER 2 CN11
4 0 REAR

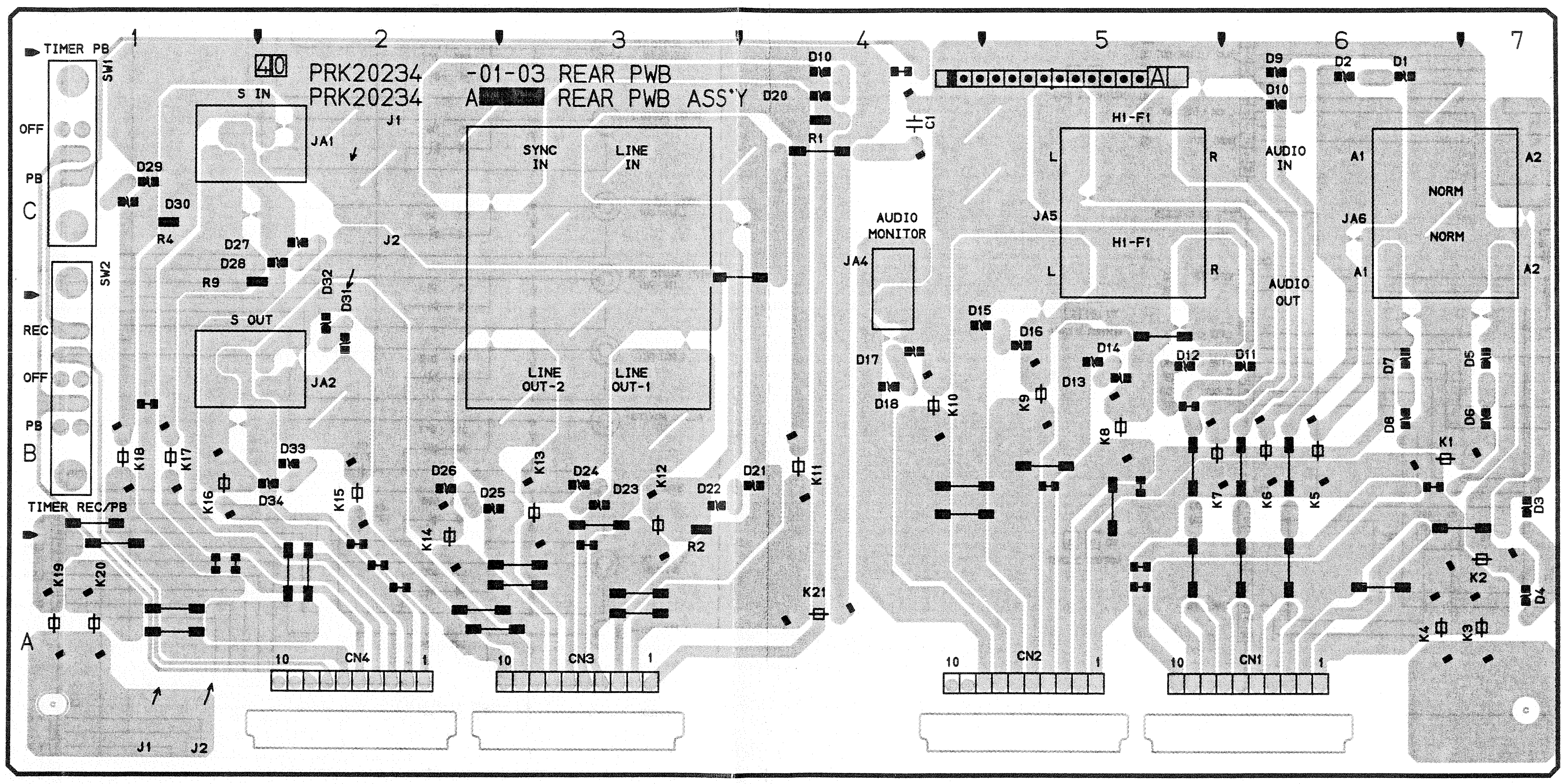
NOTE:UNLESS OTHERWISE SPECIFIED;
ALL ZENER DIODES ARE RD10ES-T1B1
ALL RESISTANCE VALUES ARE IN OHMS. (1/8W)
ALL CAPACITANCE VALUES ARE IN uF.
⊣⊢ CERAMIC

— BR-S800E —


TO CHASSIS
NORM AUDIO 2 LINE IN
D3 D4
NORM AUDIO 1 LINE IN
D2 D1
HIFI AUDIO RCH LINE IN
D10 D9
HIFI AUDIO LCH LINE IN
D11 D12
NORM AUDIO 2 LINE OUT
D5 D6
NORM AUDIO 1 LINE OUT
D7 D8
HIFI AUDIO RCH LINE OUT
D14 D13
HIFI AUDIO LCH LINE OUT
D16 D15
AUDIO MONITOR OUT
D18 D17
C1 0.01
SYNC IN
D19 D20
R1 75
LINE IN (VIDEO)
D21 D22
LINE OUT-1 (VIDEO)
D23 D24
LINE OUT-2 (VIDEO)
D25 D26
S OUT
D33 D34 D32 D31
S IN
D27 D28 D29 D30
TIMER REC/PB
PB OFF REC
SW2
CN1
AUD 2 LINE IN (X)
AUD 1 LINE IN (X)
R CH LINE IN (X)
L CH LINE IN (X)
AUD 2 LINE OUT (X)
(G)
TO 0 2 MOTHER 2 CN8
CN2
AUD 1 LINE OUT (X)
R CH LINE OUT (X)
L CH LINE OUT (X)
MONI OUT (X)
TO 0 2 MOTHER 2 CN9
TO CHASSIS
CN3
SYNC IN (X)
LINE IN (X)
LINE OUT-1 (X)
LINE OUT-2 (X)
C OUT (X)
TO 0 2 MOTHER 2 CN10
CN4
Y OUT (X)
Y IN (X)
C IN (X)
TIMER REC
TIMER PB
TO 0 2 MOTHER 2 CN11
4 0 REAR

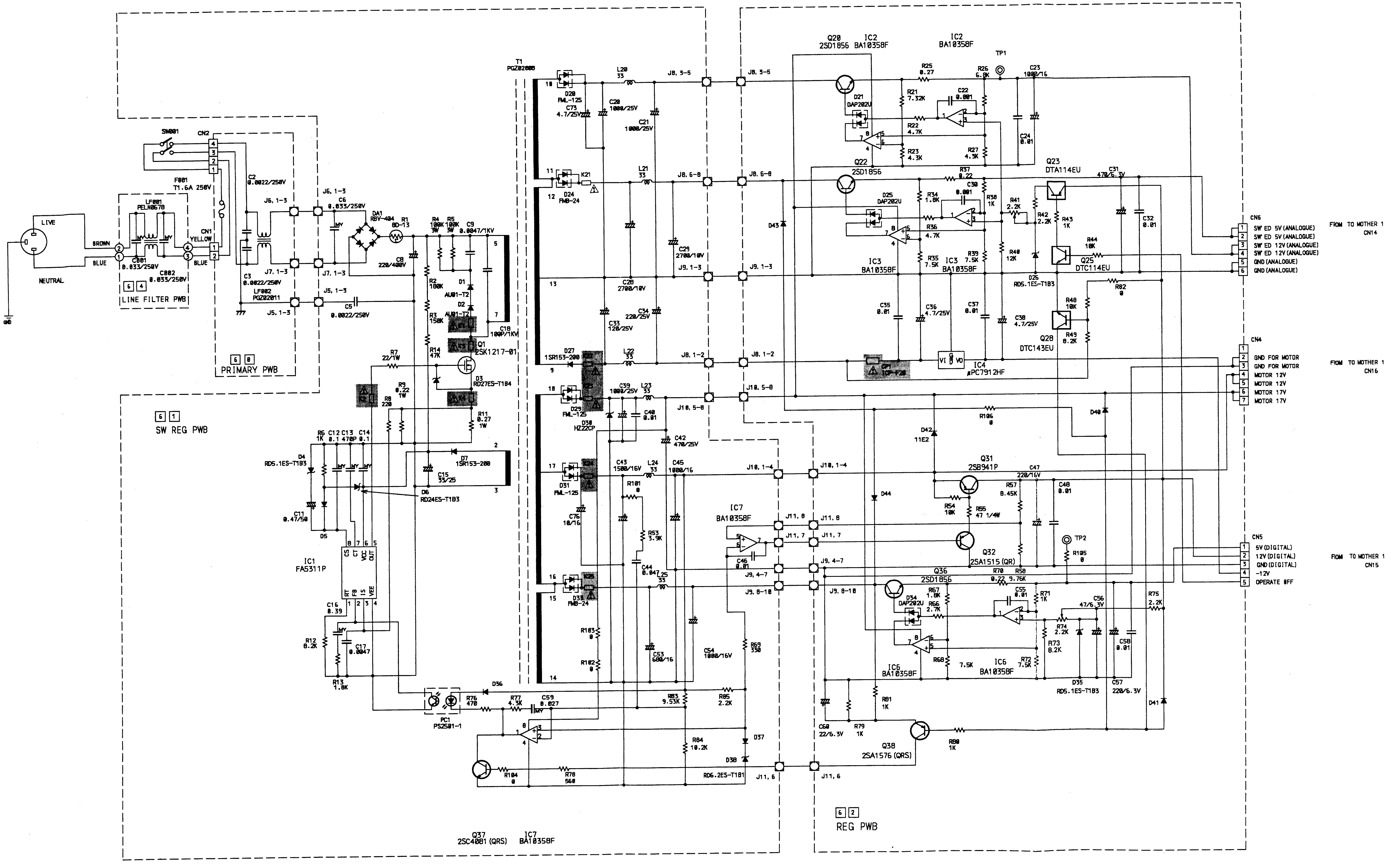
NOTE:UNLESS OTHERWISE SPECIFIED;
ALL ZENER DIODES ARE RD10ES-T1B1
ALL RESISTANCE VALUES ARE IN OHMS. (1/8W)
ALL CAPACITANCE VALUES ARE IN uF.
⊣⊢ CERAMIC

4.44 REAR CIRCUIT BOARD


PRK20234 -01-03 REAR PWB
PRK20234 A[redacted] REAR PWB ASS'Y
TIMER PB
SW1
OFF
PB
C
SW2
REC
OFF
PB
B
TIMER REC/PB
A
S IN
JA1
J1
J2
S OUT
JA2
SYNC IN
LINE IN
LINE OUT-2
LINE OUT-1
AUDIO MONITOR
JA4
JA5
Hi-Fi
L
R
AUDIO IN
AUDIO OUT
JA6
A1
A2
NORM
CN4
CN3
CN2
CN1
10
1
1
2
3
4
5
6
7
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
D20
D21
D22
D23
D24
D25
D26
D27
D28
D29
D30
D31
D32
D33
D34
R1
R2
R4
R9
C1
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
K11
K12
K13
K14
K15
K16
K17
K18
K19
K20
K21
40

(PRK20234-01-03)

4.45 SWITCHING REGULATOR SCHEMATIC DIAGRAM


LIVE
NEUTRAL
BROWN
BLUE
SW001
CN2
F001
T1.6A 250V
LF001
PELN0670
C001
0.033/250V
C002
0.033/250V
LINE FILTER PWB
CN1
YELLOW
C2
0.0022/250V
C3
0.0022/250V
LF002
PGZ02011
J6, 1-3
J7, 1-3
J5, 1-3
C6
0.033/250V
C5
0.0022/250V
PRIMARY PWB
DA1
RBV-404
R1
8D-13
C8
220/400V
R4
100K 3W
R5
100K 3W
C9
0.0047/1KV
R2
180K
R3
150K
R14
47K
D1
AU01-T2
D2
AU01-T2
C10
100P/1KV
Q1
2SK1217-01
D3
RD27ES-T1B4
R7
22/1W
R9
0.22 1W
R8
220
R11
0.27 1W
R6
1K
C12
0.1
C13
470P
C14
0.1
D4
RD5.1ES-T1B3
D5
D6
RD24ES-T1B3
D7
1SR153-200
C15
33/25
C11
0.47/50
IC1
FA5311P
CS CT VCC OUT
RT FB IS VEE
C16
0.39
R12
8.2K
C17
0.0047
R13
1.0K
PC1
PS2501-1
R76
470
R77
4.3K
C59
0.027
D36
SW REG PWB
T1
PGZ02008
D20
FML-12S
C73
4.7/25V
L20
33
C20
1000/25V
C21
1000/25V
J8, 3-5
D24
FMB-24
K21
L21
33
J8, 6-8
C28
2700/10V
C29
2700/10V
J9, 1-3
C33
120/25V
C34
220/25V
D27
1SR153-200
L22
33
J8, 1-2
D29
FML-12S
D30
HZ22CP
C39
1000/25V
L23
33
C40
0.01
J10, 5-8
C42
470/25V
D31
FML-12S
C43
1500/16V
L24
33
C45
1000/16
J10, 1-4
R101
0
C76
10/16
R53
3.9K
C44
0.047
L25
33
D33
FMB-24
IC7
BA10358F
C46
0.01
J11, 8
J11, 7
J9, 4-7
J9, 8-10
R103
0
R102
0
C53
680/16
C54
1000/16V
R69
330
R83
9.53K
R85
2.2K
R84
10.2K
D37
D38
RD6.2ES-T1B1
J11, 6
R104
0
R78
560
Q37
2SC4081 (QRS)
IC7
BA10358F
Q20
2SD1856
IC2
BA10358F
IC2
BA10358F
TP1
R25
0.27
R26
6.8K
C23
1000/16
R21
7.32K
C22
0.001
D21
DAP202U
R22
4.7K
R23
4.3K
R27
4.3K
C24
0.01
Q22
2SD1856
R37
0.22
Q23
DTA114EU
C31
470/6.3V
D25
DAP202U
R34
1.8K
C30
0.001
R38
1K
R41
2.2K
R42
2.2K
R43
1K
C32
0.01
D43
R36
4.7K
R35
7.5K
IC3
BA10358F
IC3
BA10358F
R39
7.5K
R40
12K
R44
10K
D26
RD5.1ES-T1B3
Q25
DTC114EU
R82
0
C35
0.01
C36
4.7/25V
C37
0.01
C38
4.7/25V
R48
10K
R49
8.2K
Q28
DTC143EU
CP1
ICP-F20
IC4
μPC7912HF
VI G VO
CN6
SW ED 5V (ANALOGUE)
SW ED 5V (ANALOGUE)
SW ED 12V (ANALOGUE)
SW ED 12V (ANALOGUE)
GND (ANALOGUE)
GND (ANALOGUE)
FROM TO MOTHER 1 CN14
CN4
GND FOR MOTOR
GND FOR MOTOR
MOTOR 12V
MOTOR 12V
MOTOR 17V
MOTOR 17V
FROM TO MOTHER 1 CN16
R106
0
D40
D42
11E2
Q31
2SB941P
C47
220/16V
R57
8.45K
C48
0.01
D44
R54
10K
R55
47 1/4W
Q32
2SA1515 (QR)
TP2
R105
0
CN5
5V (DIGITAL)
12V (DIGITAL)
GND (DIGITAL)
-12V
OPERATE OFF
FROM TO MOTHER 1 CN15
Q36
2SD1856
R70
0.22
R58
9.76K
D34
DAP202U
R67
1.8K
R66
2.7K
C55
0.01
R71
1K
C56
47/6.3V
R75
2.2K
R74
2.2K
R73
8.2K
C58
0.01
R68
7.5K
IC6
BA10358F
IC6
BA10358F
R72
7.5K
D35
RD5.1ES-T1B3
C57
220/6.3V
D41
C60
22/6.3V
R79
1K
R81
1K
Q38
2SA1576 (QRS)
R80
1K
REG PWB

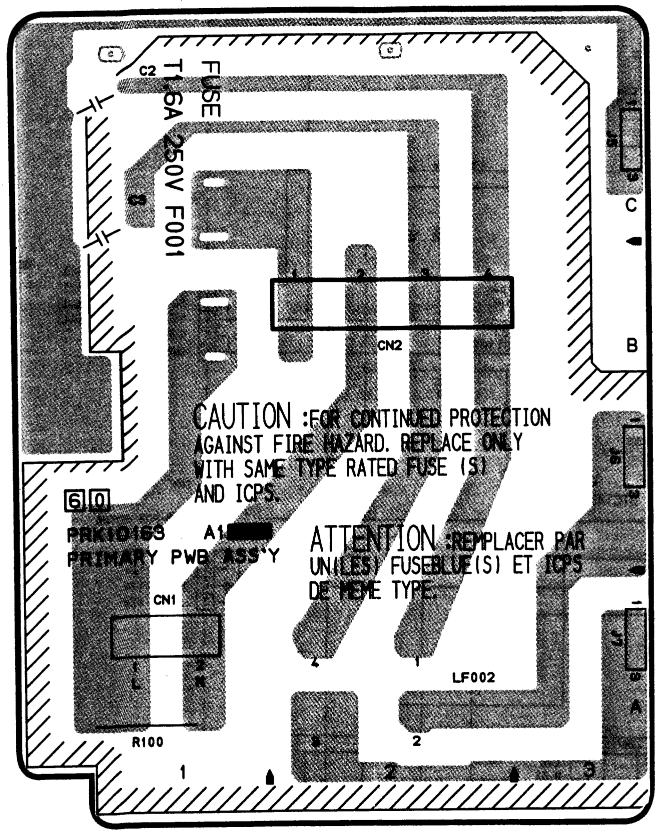
NOTE: UNLESS OTHERWISE SPECIFIED:
ALL DIODES ARE 1SS133
ALL RESISTANCE VALUES ARE IN OHMS. (#/#W)
ALL INDUCTANCE VALUES ARE IN uH.
ALL CAPACITANCE VALUES ARE IN uF.

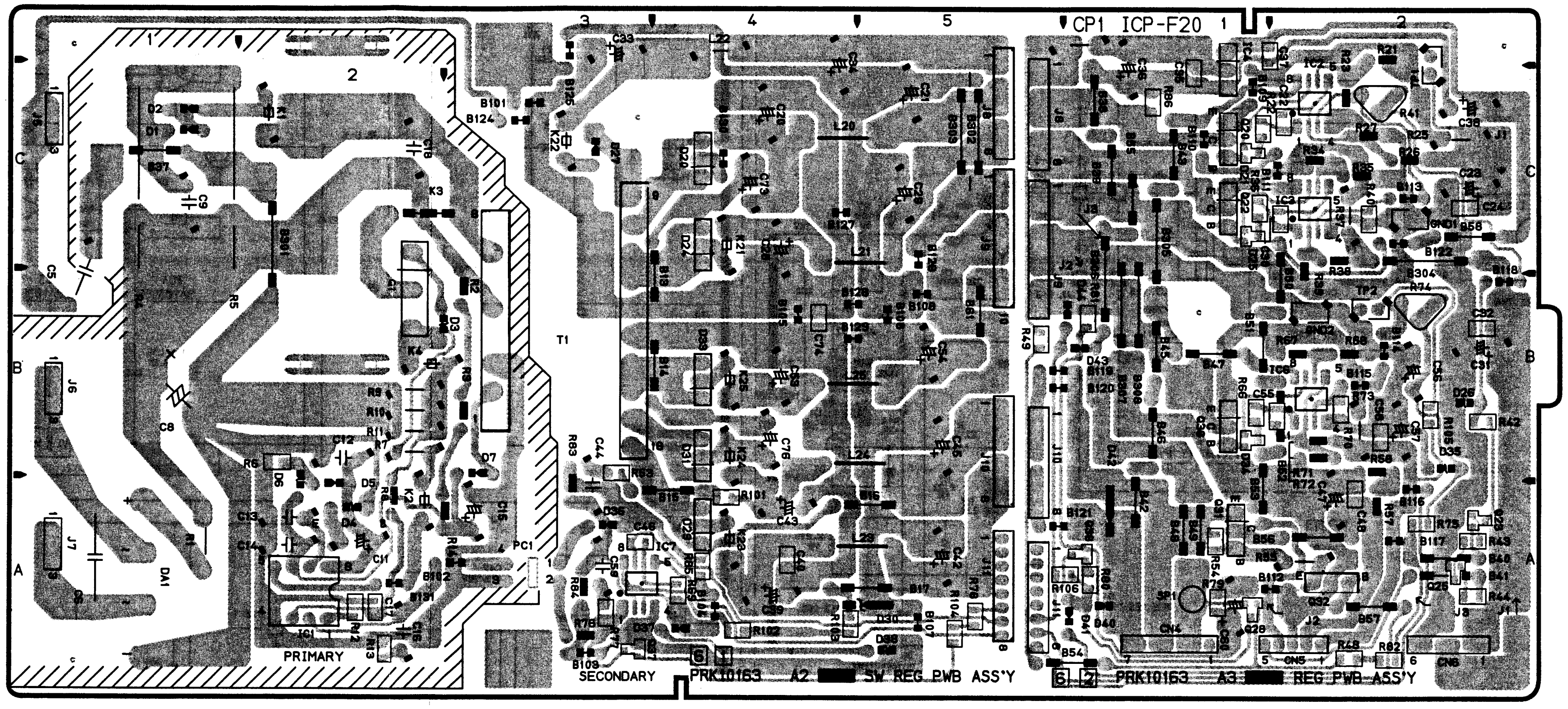
ELECTROLYTIC
CERAMIC
MYLAR

6
5
4
3
2
1

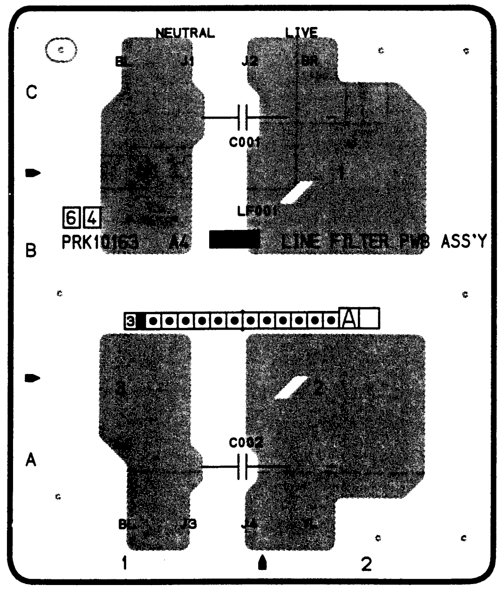
A B C D E F G H

4.46 SWITCHING REGULATOR CIRCUIT BOARD


FUSE T1.6A 250V F001
CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD. REPLACE ONLY WITH SAME TYPE RATED FUSE (S) AND ICPS.
ATTENTION :REMPLACER PAR UN(LES) FUSEBLUE(S) ET ICPS DE MEME TYPE.
60
PRK10163 A1
PRIMARY PWB ASS'Y
CN1
CN2
LF002
R100


CP1 ICP-F20
T1
PC1
IC1
PRIMARY
SECONDARY
61 PRK10163 A2 SW REG PWB ASS'Y
62 PRK10163 A3 REG PWB ASS'Y

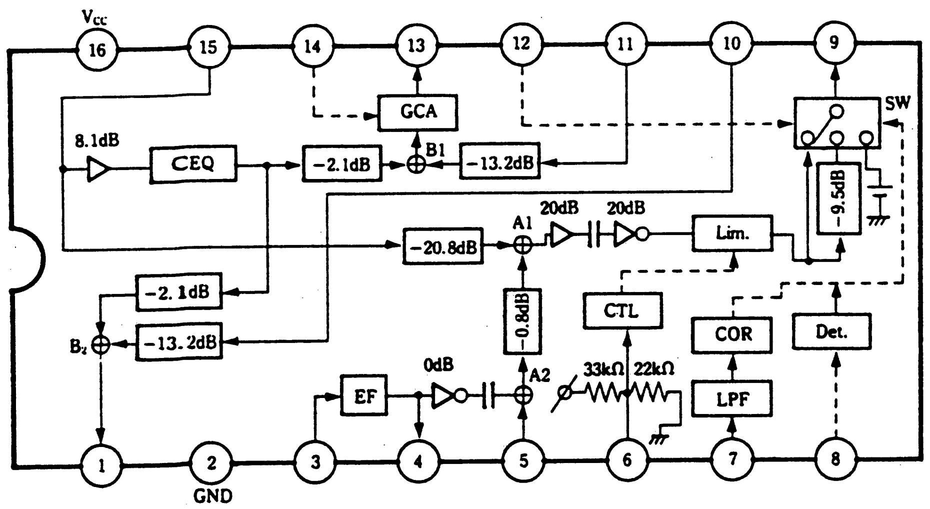
(PRK10163-01-03)


NEUTRAL
LIVE
C001
LF001
C002
64
PRK10163 A4 LINE FILTER PWB ASS'Y

(PRK10163-01-03)

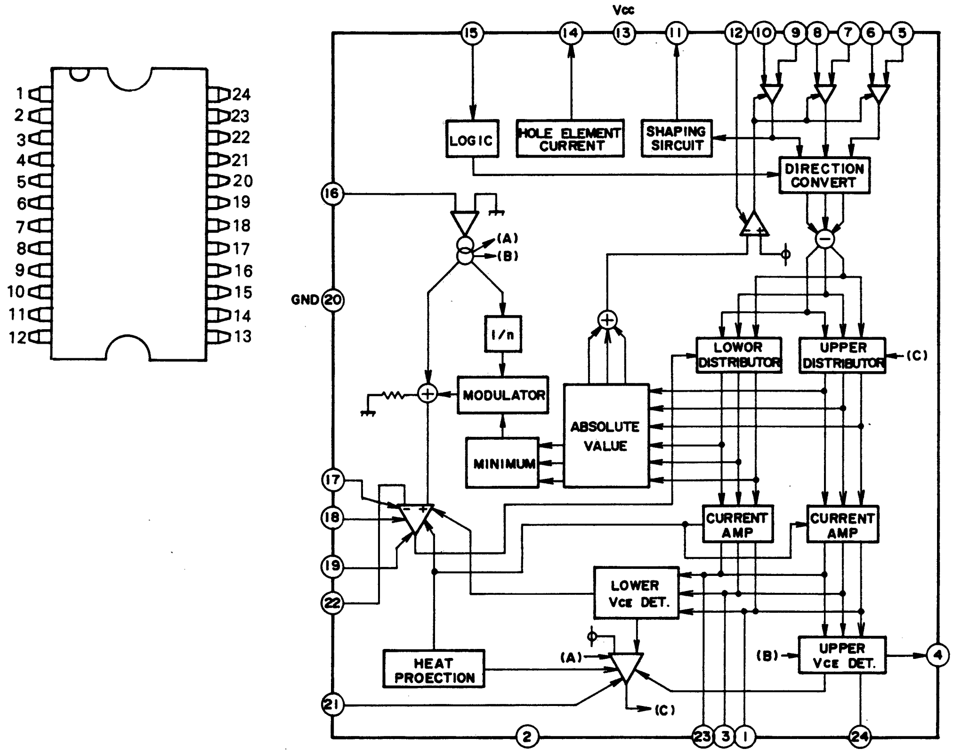
4.47 IC BLOCK DIAGRAM

■ AN3497SB 【Panasonic】
(CHROMA Noise Reduction for VTR)



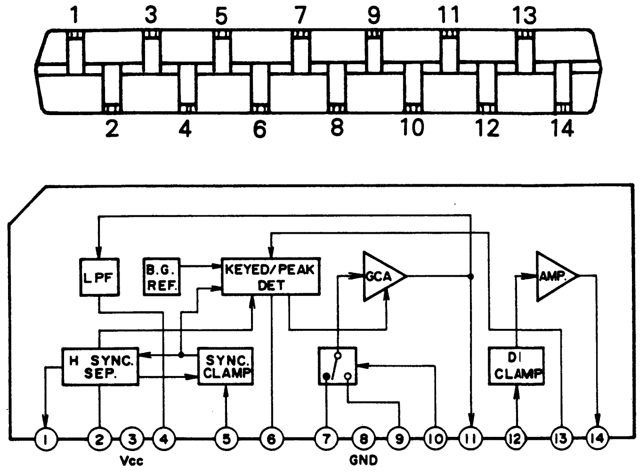
Vcc
16
15
14
13
12
11
10
9
GCA
SW
8.1dB
CEQ
-2.1dB
B1
-13.2dB
-9.5dB
A1
20dB
20dB
-20.8dB
Lim.
-2.1dB
B2
-13.2dB
-0.8dB
CTL
COR
Det.
0dB
A2
33kΩ
22kΩ
EF
LPF
1
2
GND
3
4
5
6
7
8

■ AN3834K 【MATSUSHITA】
(VTR Reel Motor Drive)



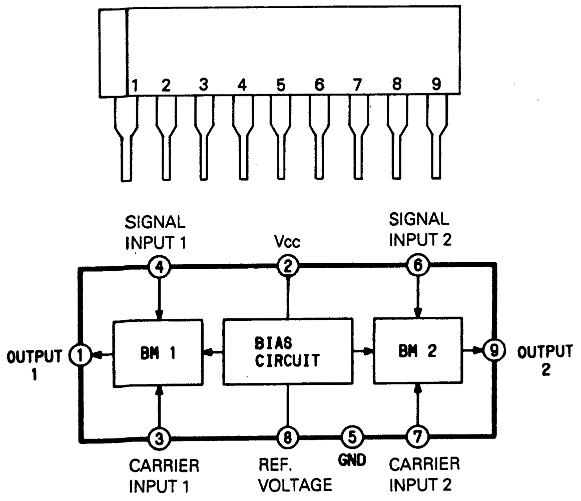
Vcc
LOGIC
HOLE ELEMENT CURRENT
SHAPING SIRCUIT
DIRECTION CONVERT
GND
I/n
MODULATOR
MINIMUM
ABSOLUTE VALUE
LOWOR DISTRIBUTOR
UPPER DISTRIBUTOR
CURRENT AMP
CURRENT AMP
LOWER VCE DET.
UPPER VCE DET.
HEAT PROECTION
(A)
(B)
(C)

■ AN3916 【MATSUSHITA】
(Video AGC)



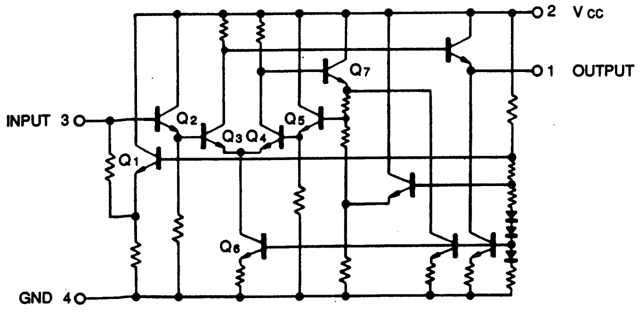
1
3
5
7
9
11
13
2
4
6
8
10
12
14
LPF
B.G. REF.
KEYED/PEAK DET
GCA
AMP
H SYNC. SEP.
SYNC. CLAMP
DI CLAMP
Vcc
GND

■ AN6041 【MATSUSHITA】
(Dual Balanced Modulator)



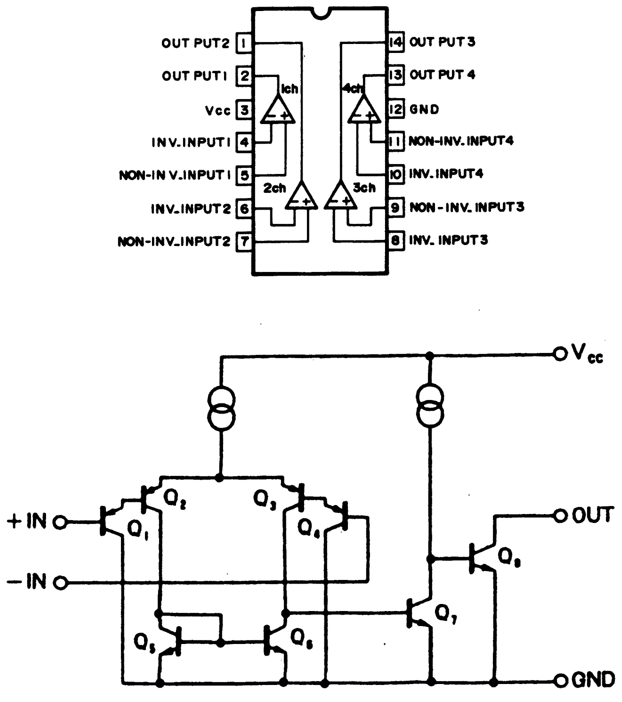
1 2 3 4 5 6 7 8 9
SIGNAL INPUT 1
Vcc
SIGNAL INPUT 2
OUTPUT 1
BM 1
BIAS CIRCUIT
BM 2
OUTPUT 2
CARRIER INPUT 1
REF. VOLTAGE
GND
CARRIER INPUT 2

■ AN607P 【MATSUSHITA】
(Amp.)



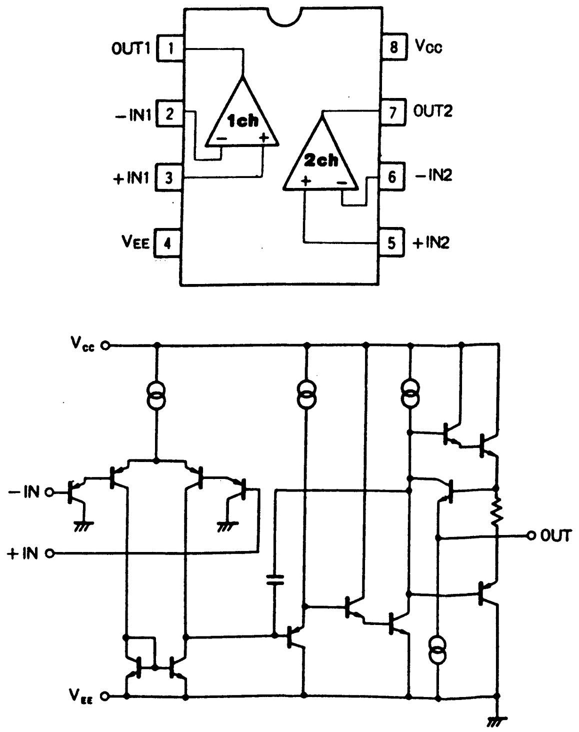
2 Vcc
1 OUTPUT
INPUT 3
GND 4
Q1
Q2
Q3
Q4
Q5
Q6
Q7

■ BA10339F 【ROHM】
(Quad Comparator)



OUT PUT2
OUT PUT1
Vcc
INV.INPUT1
NON-INV.INPUT1
INV.INPUT2
NON-INV.INPUT2
OUT PUT3
OUT PUT4
GND
NON-INV.INPUT4
INV.INPUT4
NON-INV.INPUT3
INV.INPUT3
1ch
2ch
3ch
4ch
Vcc
+IN
-IN
OUT
GND
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8

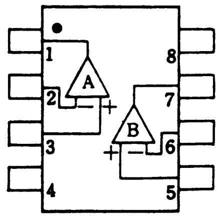
■ BA10358F 【ROHM】
(Dual Ground Sense Op.Amp)



OUT1
-IN1
+IN1
VEE
Vcc
OUT2
-IN2
+IN2
1ch
2ch
Vcc
-IN
+IN
OUT
VEE

■ BA10393F 【ROHM】
(Dual Comparator)

(Top View)

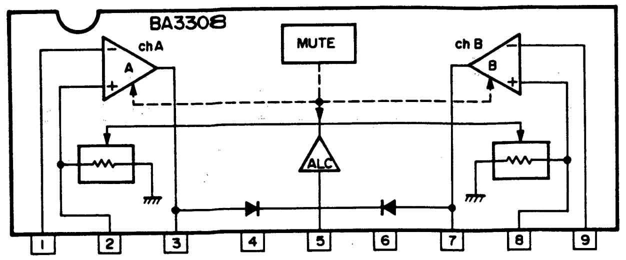


1
2
3
4
5
6
7
8
A
B

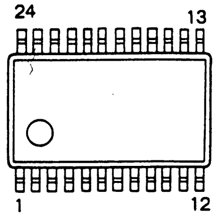
Pin
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

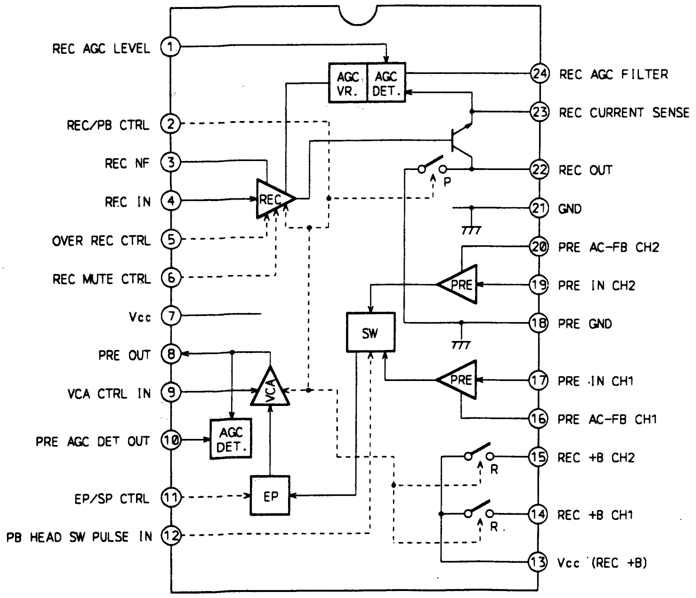
4-73

■ BA3308F 【ROHM】
(Dual Pre.Amp With ALC)

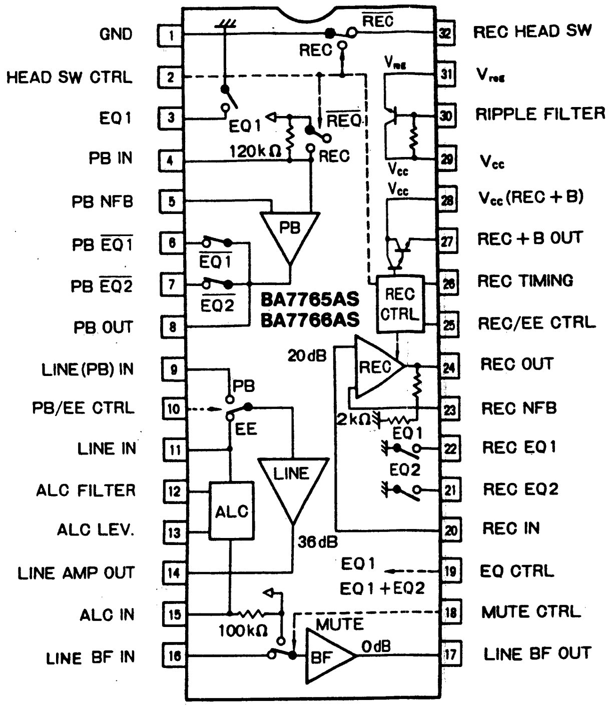

BA3308
chA
chB
A
B
MUTE
ALC
1
2
3
4
5
6
7
8
9

■ BA7743FS 【ROHM】
(VTR HiFi Audio Signal REC/PB Amp.)



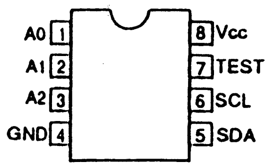

REC AGC LEVEL ①
REC/PB CTRL ②
REC NF ③
REC IN ④
OVER REC CTRL ⑤
REC MUTE CTRL ⑥
Vcc ⑦
PRE OUT ⑧
VCA CTRL IN ⑨
PRE AGC DET OUT ⑩
EP/SP CTRL ⑪
PB HEAD SW PULSE IN ⑫
㉔ REC AGC FILTER
㉓ REC CURRENT SENSE
㉒ REC OUT
㉑ GND
⑳ PRE AC-FB CH2
⑲ PRE IN CH2
⑱ PRE GND
⑰ PRE IN CH1
⑯ PRE AC-FB CH1
⑮ REC +B CH2
⑭ REC +B CH1
⑬ Vcc (REC +B)
AGC VR.
AGC DET.
REC
P
PRE
SW
PRE
VCA
AGC DET.
EP
R
R

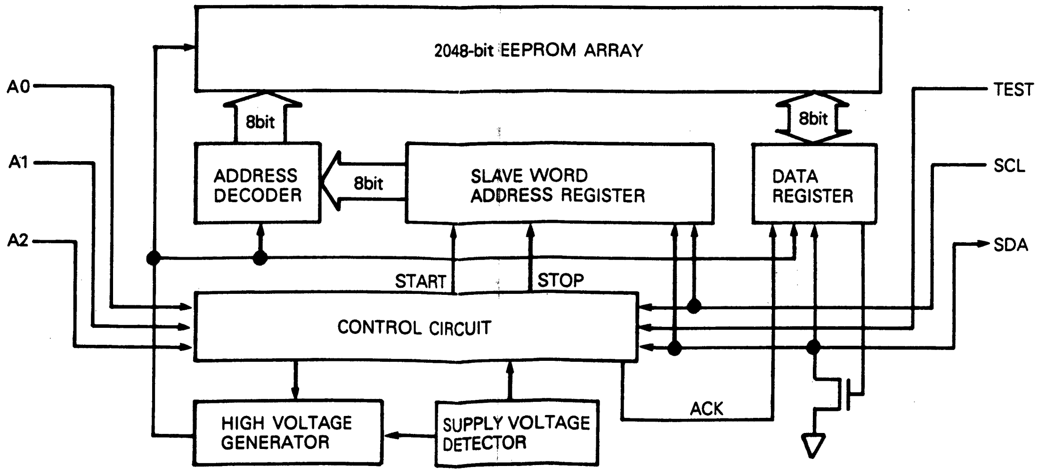
■ BA7765AS 【ROHM】
(Normal Audio Signal Processor)


GND 1
HEAD SW CTRL 2
EQ1 3
PB IN 4
PB NFB 5
PB $\overline{EQ1}$ 6
PB $\overline{EQ2}$ 7
PB OUT 8
LINE(PB) IN 9
PB/EE CTRL 10
LINE IN 11
ALC FILTER 12
ALC LEV. 13
LINE AMP OUT 14
ALC IN 15
LINE BF IN 16
32 REC HEAD SW
31 V_{reg}
30 RIPPLE FILTER
29 V_{cc}
28 V_{cc}(REC+B)
27 REC+B OUT
26 REC TIMING
25 REC/EE CTRL
24 REC OUT
23 REC NFB
22 REC EQ1
21 REC EQ2
20 REC IN
19 EQ CTRL
18 MUTE CTRL
17 LINE BF OUT
$\overline{REC}$
REC
V_{reg}
EQ1
$\overline{REQ}$
120kΩ
REC
V_{cc}
V_{cc}
PB
$\overline{EQ1}$
$\overline{EQ2}$
BA7765AS
BA7766AS
REC CTRL
20dB
REC
PB
EE
2kΩ
EQ1
EQ2
LINE
ALC
36dB
EQ1
EQ1+EQ2
100kΩ
MUTE
0dB
BF

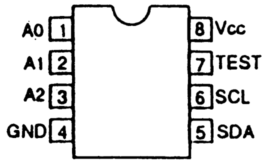
(TOP VIEW)

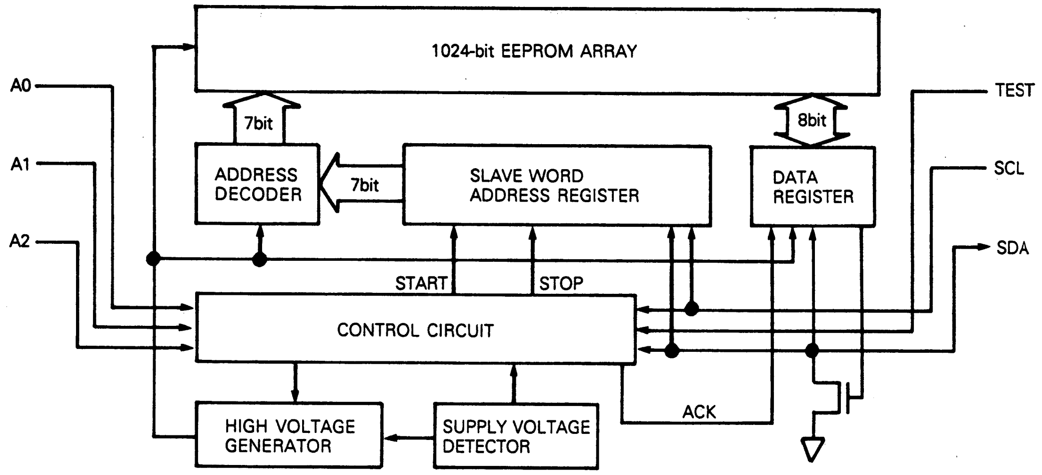
■ BR24C02F 【ROHM】
(IIC Bus 2k Serial EEPROM)


A0 1
A1 2
A2 3
GND 4
8 Vcc
7 TEST
6 SCL
5 SDA

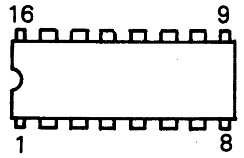

2048-bit EEPROM ARRAY
8bit
ADDRESS DECODER
8bit
SLAVE WORD ADDRESS REGISTER
8bit
DATA REGISTER
A0
A1
A2
TEST
SCL
SDA
START
STOP
CONTROL CIRCUIT
HIGH VOLTAGE GENERATOR
SUPPLY VOLTAGE DETECTOR
ACK

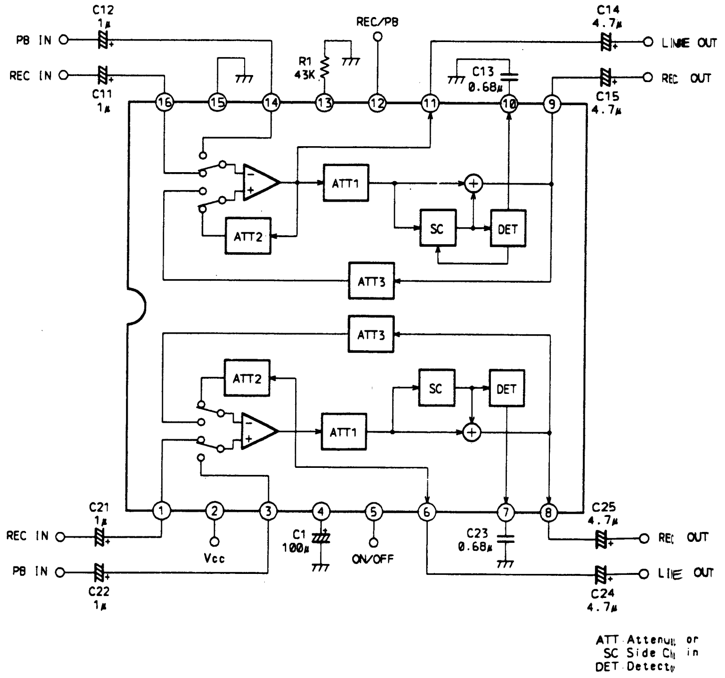
■ BR24C01AF 【ROHM】
(IIC Bus 1k Serial EEPROM)


A0 1
A1 2
A2 3
GND 4
8 Vcc
7 TEST
6 SCL
5 SDA

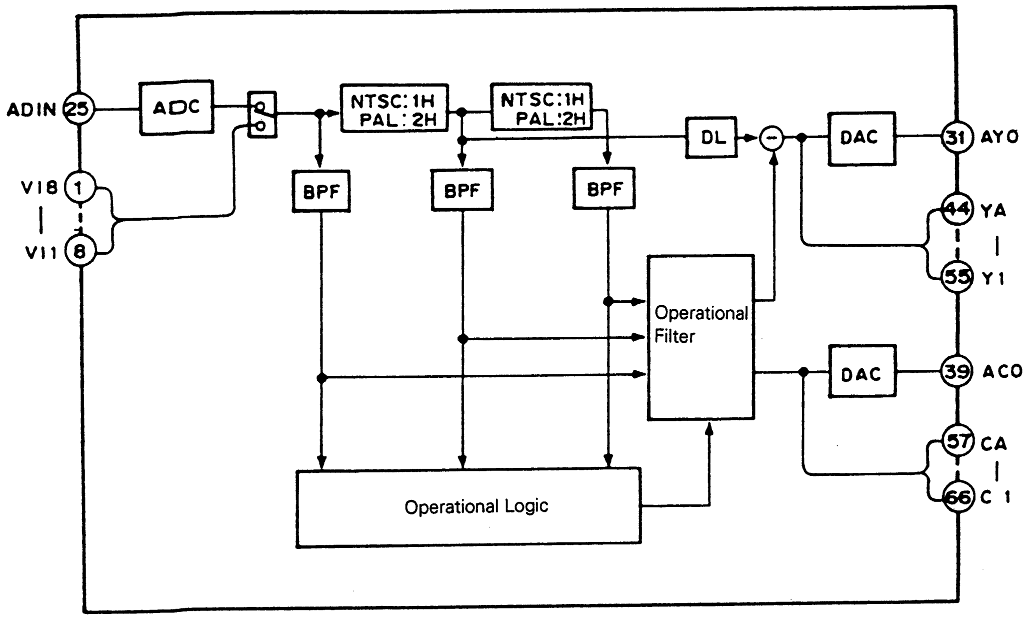

1024-bit EEPROM ARRAY
7bit
ADDRESS DECODER
7bit
SLAVE WORD ADDRESS REGISTER
8bit
DATA REGISTER
A0
A1
A2
TEST
SCL
SDA
START
STOP
CONTROL CIRCUIT
HIGH VOLTAGE GENERATOR
SUPPLY VOLTAGE DETECTOR
ACK

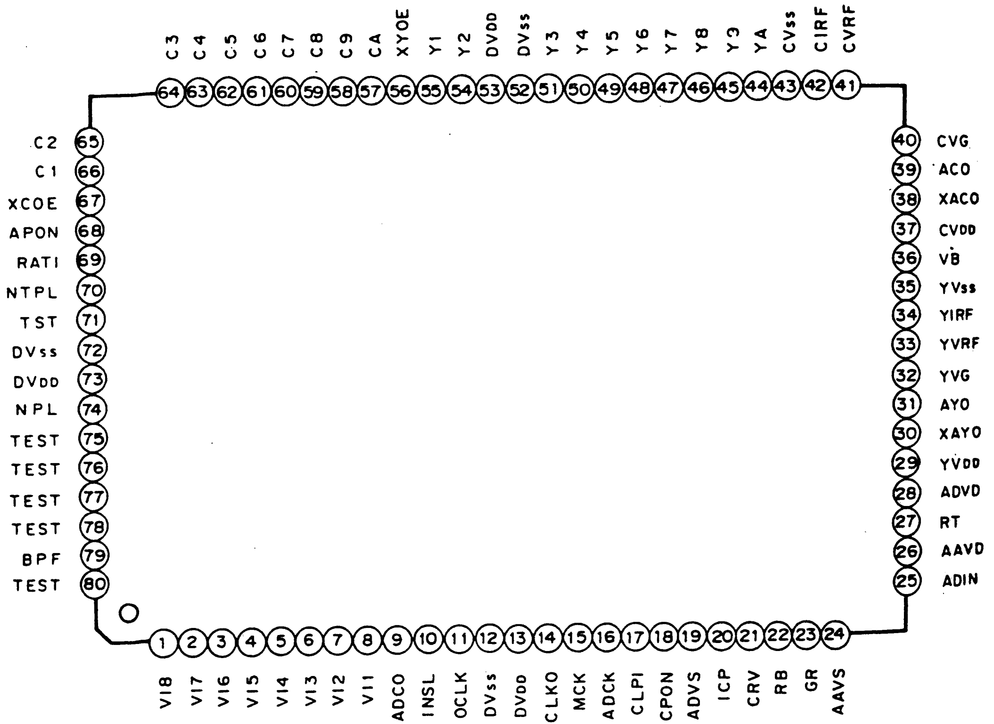
■ CXA1101P 【SONY】
(Dolby Noise Reduction Circuit)




C12 1μ
PB IN
REC IN
C11 1μ
R1 43K
REC/PB
C13 0.68μ
C14 4.7μ
LINE OUT
REC OUT
C15 4.7μ
16
15
14
13
12
11
10
9
ATT1
ATT2
SC
DET
ATT3
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8
C21 1μ
REC IN
PB IN
C22 1μ
Vcc
C1 100μ
ON/OFF
C23 0.68μ
C25 4.7μ
REC OUT
LINE OUT
C24 4.7μ
ATT Attenuator
SC Side Chain
DET Detector

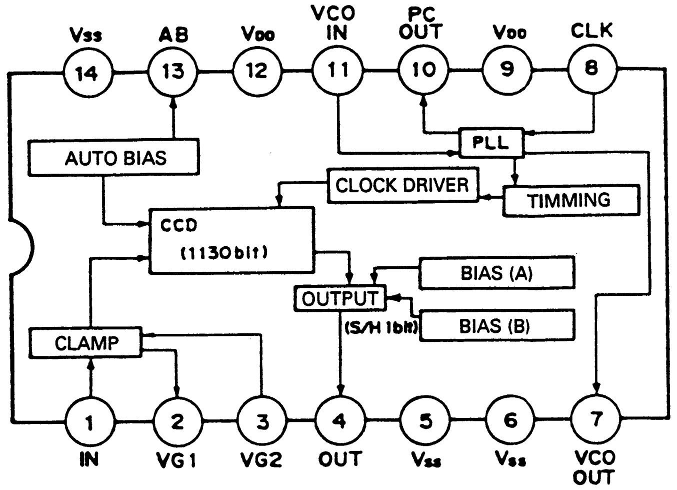
■ CXD2024Q 【SONY】
(Digital Comb Filter (NTSC/PAL))


ADIN 25
VI8 1
VI1 8
ADC
NTSC: 1H
PAL: 2H
NTSC: 1H
PAL: 2H
DL
DAC
BPF
BPF
BPF
Operational Filter
Operational Logic
DAC
31 AYO
44 YA
55 Y1
39 ACO
57 CA
66 C1

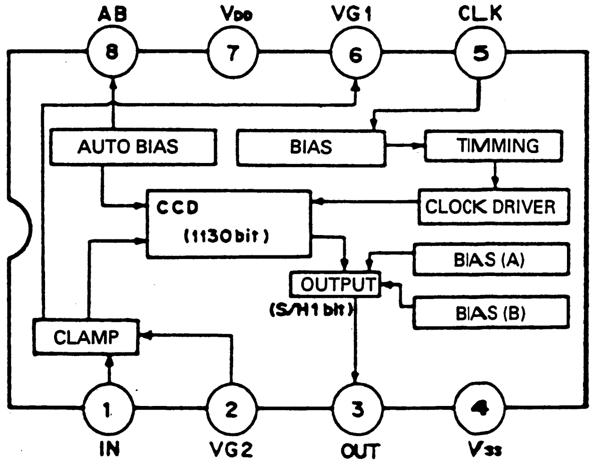

C3 C4 C5 C6 C7 C8 C9 CA XYOE Y1 Y2 DVDD DVss Y3 Y4 Y5 Y6 Y7 Y8 Y9 YA CVss CIRF CVRF
64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41
C2 65
C1 66
XCOE 67
APON 68
RATI 69
NTPL 70
TST 71
DVss 72
DVDD 73
NPL 74
TEST 75
TEST 76
TEST 77
TEST 78
BPF 79
TEST 80
40 CVG
39 ACO
38 XACO
37 CVDD
36 VB
35 YVss
34 YIRF
33 YVRF
32 YVG
31 AYO
30 XAYO
29 YVDD
28 ADVD
27 RT
26 AAVD
25 ADIN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
VI8 VI7 VI6 VI5 VI4 VI3 VI2 VI1 ADCO INSL OCLK DVss DVDD CLKO MCK ADCK CLPI XCPON ADVS ICP CRV RB GR AAVS

Pin No.	Symbol	I/O	Description
1	VI8	I	Digital input (MSB) When this pin is out of use, connect it with DVss or DVDD.
2	VI7	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
3	VI6	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
4	VI5	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
5	VI4	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
6	VI3	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
7	VI2	I	Digital input When this pin is out of use, connect it with DVss or DVDD.
8	VI1	I	Digital input (LSB) When this pin is out of use, connect it with DVss or DVDD.
9	ADCO	I	H: Outputs video signal supplied from A-D converter (input pin: ADIN) as 8-bit digital data which is delayed by 3.5 clocks from Y OUT terminal. L: General operation mode
10	INSL	I	Input switching. Switches comb filter input. H: Digital input L: Analog input
11	OCLK	I	Clock amp. input. Input clock at a level of 0.8 Vp-p or higher after its DC component is cut off by capacitor.
12	DVss	—	Digital power ground
13	DVDD	—	Digital power supply (5 V)
14	CLKO	O	Clock amp. output
15	MCK	I	Clock input. Input 4 fsc clock locked with color burst to this pin. This pin is generally connected with the pin 14 (clock amp output).

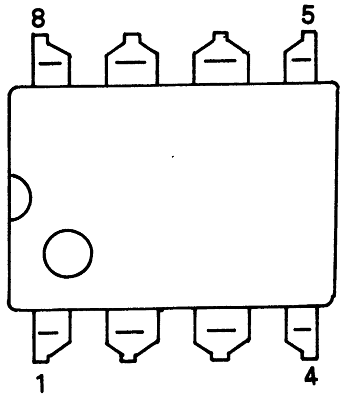
■ CXL5505M 【SONY】
(CMOS–CCD 1H Delay Line for PAL)

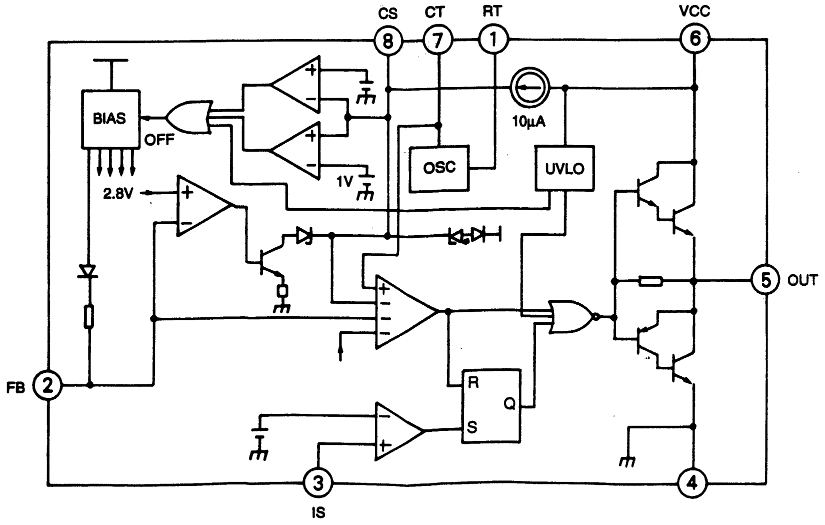

Vss 14
AB 13
VDD 12
VCO IN 11
PC OUT 10
VDD 9
CLK 8
AUTO BIAS
PLL
CLOCK DRIVER
TIMMING
CCD (1130bit)
BIAS (A)
OUTPUT (S/H 1bit)
BIAS (B)
CLAMP
1 IN
2 VG1
3 VG2
4 OUT
5 Vss
6 Vss
7 VCO OUT

■ CXL5506M 【SONY】
(CMOS–CCD 1H Delay Line for PAL)

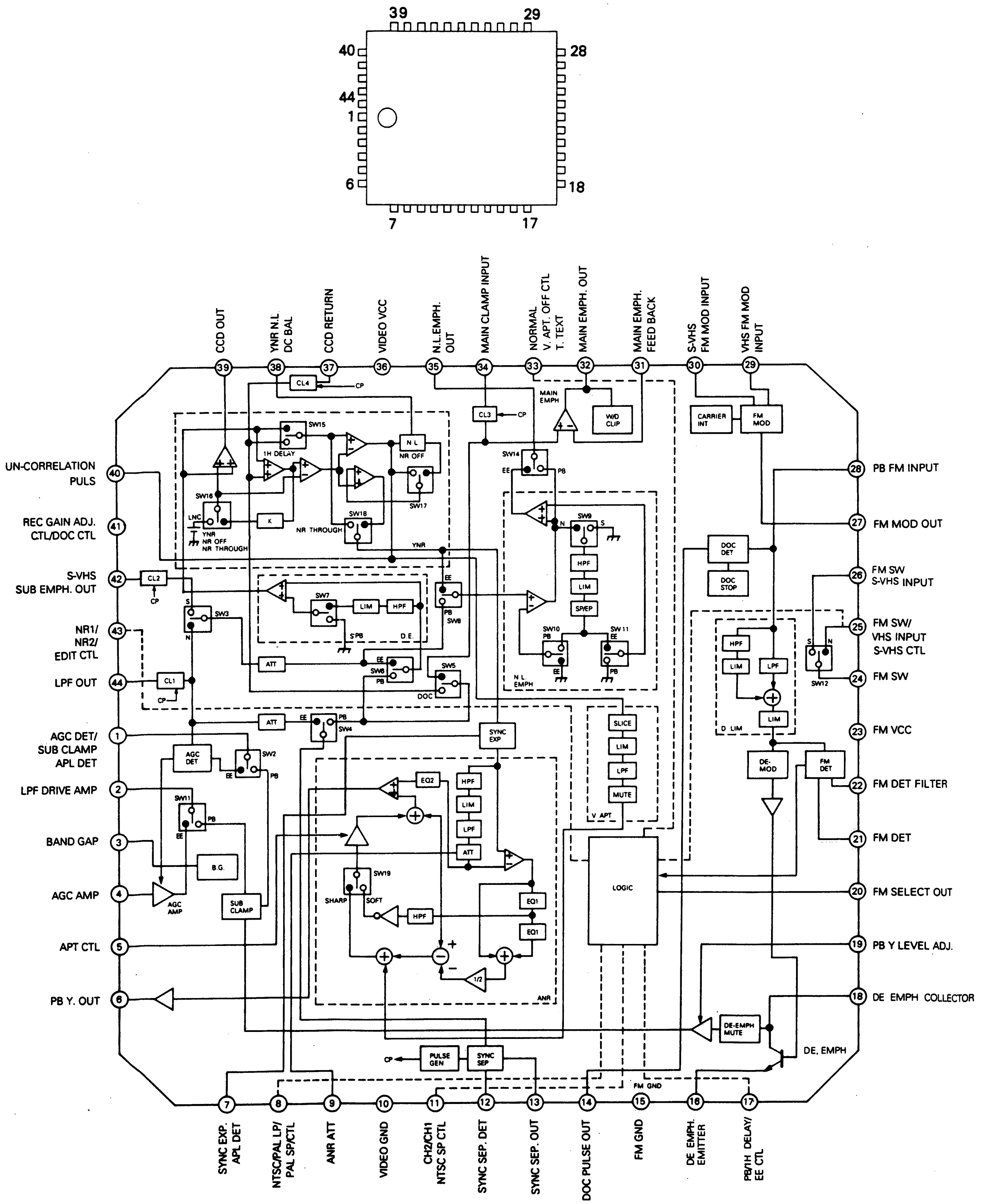

AB 8
VDD 7
VG1 6
CLK 5
AUTO BIAS
BIAS
TIMMING
CCD (1130bit)
CLOCK DRIVER
BIAS (A)
OUTPUT (S/H1 bit)
BIAS (B)
CLAMP
1 IN
2 VG2
3 OUT
4 Vss

■ FA5311P 【FUJI ELECTRIC】
(PWM Switching Regulator)

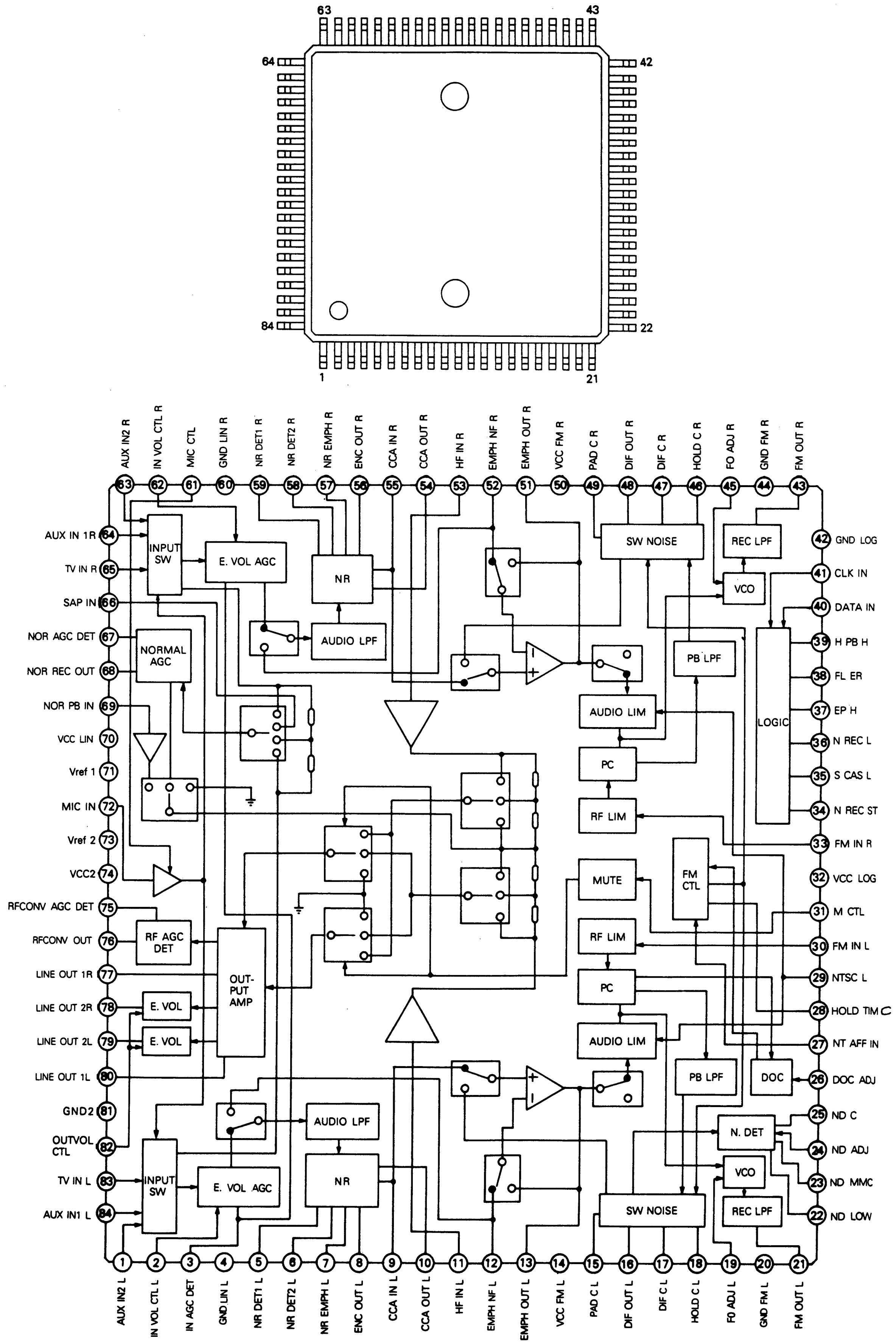



CS 8
CT 7
RT 1
VCC 6
BIAS
OFF
2.8V
1V
OSC
10μA
UVLO
5 OUT
FB 2
R
S
Q
3 IS
4

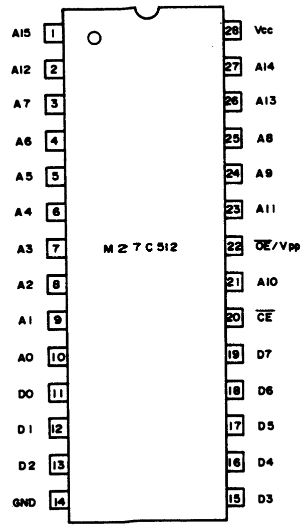
■ JCP0032-HT 【JVC】
(FM Signal Processor)


39
29
40
28
44
1
6
18
7
17
CCD OUT
YNR N.L DC BAL
CCD RETURN
VIDEO VCC
N.L.EMPH. OUT
MAIN CLAMP INPUT
NORMAL V. APT. OFF CTL T. TEXT
MAIN EMPH. OUT
MAIN EMPH. FEED BACK
S-VHS FM MOD INPUT
VHS FM MOD INPUT
UN-CORRELATION PULS
REC GAIN ADJ. CTL/DOC CTL
S-VHS SUB EMPH. OUT
NR1/ NR2/ EDIT CTL
LPF OUT
AGC DET/ SUB CLAMP APL DET
LPF DRIVE AMP
BAND GAP
AGC AMP
APT CTL
PB Y. OUT
PB FM INPUT
FM MOD OUT
FM SW S-VHS INPUT
FM SW/ VHS INPUT S-VHS CTL
FM SW
FM VCC
FM DET FILTER
FM DET
FM SELECT OUT
PB Y LEVEL ADJ.
DE EMPH COLLECTOR
SYNC EXP. APL DET
NTSC/PAL LPF/ PAL SP/CTL
ANR ATT
VIDEO GND
CH2/CH1 NTSC SP CTL
SYNC SEP. DET
SYNC SEP. OUT
DOC PULSE OUT
FM GND
DE EMPH. EMITTER
PB/TH DELAY/ EE CTL
CL4
CL3
CL2
CL1
1H DELAY
N L
NR OFF
SW15
SW16
SW17
SW18
K
NR THROUGH
YNR
LNC
YNR NR OFF NR THROUGH
MAIN EMPH
W/D CLIP
CARRIER INT
FM MOD
SW14
SW9
HPF
LIM
SP/EP
SW10
SW11
N L EMPH
SW3
SW7
LIM
HPF
D.E
ATT
SW8
SW5
DOC
SW4
SW2
SW1
AGC DET
B.G.
AGC AMP
SUB CLAMP
DOC DET
DOC STOP
D LIM
LIM
LPF
SW12
DE-MOD
FM DET
SLICE
LIM
LPF
MUTE
V APT
SYNC EXP
EQ2
HPF
LIM
LPF
ATT
SW19
SHARP
SOFT
HPF
EQ1
EQ1
1/2
ANR
LOGIC
DE-EMPH MUTE
DE. EMPH
PULSE GEN
SYNC SEP
FM GND

■ JCP0038 【JVC】
(FMA Signal Processor)


63
43
64
42
84
22
1
21
AUX IN2 R
IN VOL CTL R
MIC CTL
GND LIN R
NR DET1 R
NR DET2 R
NR EMPH R
ENC OUT R
CCA IN R
CCA OUT R
HF IN R
EMPH NF R
EMPH OUT R
VCC FM R
PAD C R
DIF OUT R
DIF C R
HOLD C R
FO ADJ R
GND FM R
FM OUT R
AUX IN 1R
TV IN R
SAP IN
NOR AGC DET
NOR REC OUT
NOR PB IN
VCC LIN
Vref 1
MIC IN
Vref 2
VCC2
RFCONV AGC DET
RFCONV OUT
LINE OUT 1R
LINE OUT 2R
LINE OUT 2L
LINE OUT 1L
GND2
OUTVOL CTL
TV IN L
AUX IN1 L
GND LOG
CLK IN
DATA IN
H PB H
FL ER
EP H
N REC L
S CAS L
N REC ST
FM IN R
VCC LOG
M CTL
FM IN L
NTSC L
HOLD TIM C
NT AFF IN
DOC ADJ
ND C
ND ADJ
ND MMC
ND LOW
AUX IN2 L
IN VOL CTL L
IN AGC DET
GND LIN L
NR DET1 L
NR DET2 L
NR EMPH L
ENC OUT L
CCA IN L
CCA OUT L
HF IN L
EMPH NF L
EMPH OUT L
VCC FM L
PAD C L
DIF OUT L
DIF C L
HOLD C L
FO ADJ L
GND FM L
FM OUT L
INPUT SW
E. VOL AGC
NR
AUDIO LPF
SW NOISE
REC LPF
VCO
NORMAL AGC
PB LPF
AUDIO LIM
PC
RF LIM
LOGIC
MUTE
FM CTL
RF AGC DET
OUT-PUT AMP
E. VOL
E. VOL
AUDIO LIM
PB LPF
DOC
N. DET
VCO
AUDIO LPF
NR
E. VOL AGC
INPUT SW
SW NOISE
REC LPF

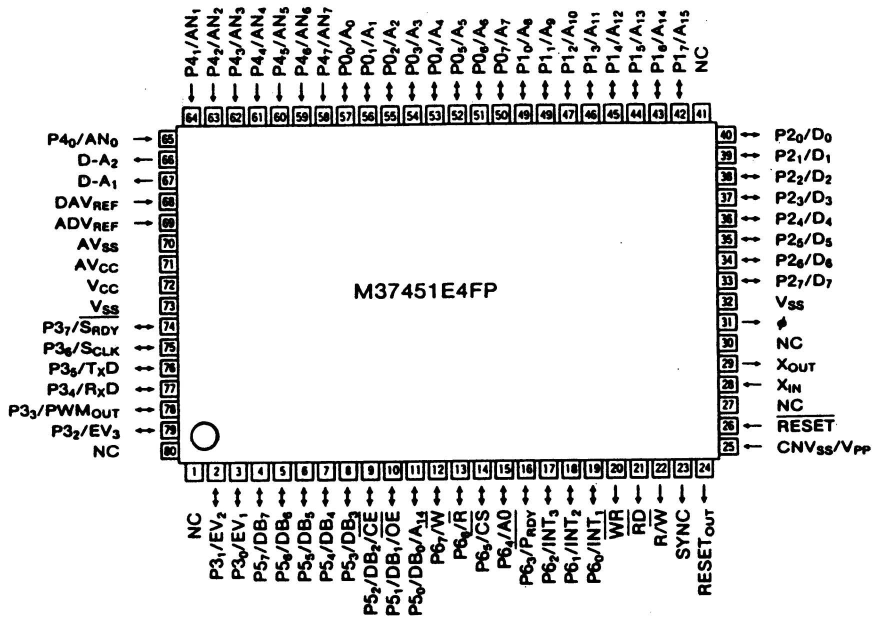
■ M27C512-15F1 【MITSUBISHI】
(524288 Bit Programmed EPROM)



A15 1
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
D0 11
D1 12
D2 13
GND 14
M27C512
28 Vcc
27 A14
26 A13
25 A8
24 A9
23 A11
22 OE/Vpp
21 A10
20 CE
19 D7
18 D6
17 D5
16 D4
15 D3

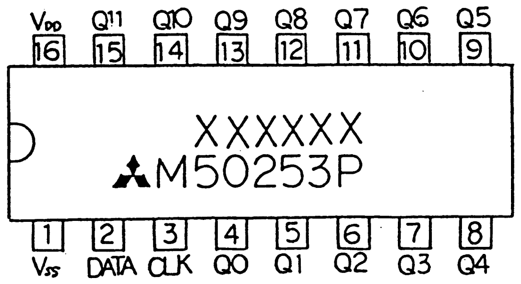
(TOP VIEW)

■ M37451E8-504FP 【JVC】
(8 Bit CMOS Micro Computer)



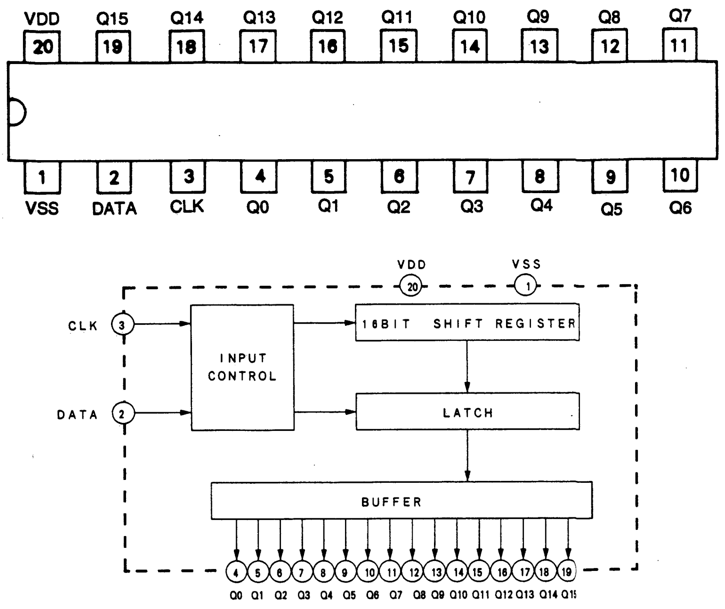
M37451E4FP
P4₀/AN₀ 65
D-A₂ 66
D-A₁ 67
DAVREF 68
ADVREF 69
AVss 70
AVcc 71
Vcc 72
Vss 73
P3₇/SRDY 74
P3₆/SCLK 75
P3₅/TxD 76
P3₄/RxD 77
P3₃/PWMOUT 78
P3₂/EV₃ 79
NC 80
40 P2₀/D₀
39 P2₁/D₁
38 P2₂/D₂
37 P2₃/D₃
36 P2₄/D₄
35 P2₅/D₅
34 P2₆/D₆
33 P2₇/D₇
32 Vss
31 φ
30 NC
29 XOUT
28 XIN
27 NC
26 RESET
25 CNVss/VPP
64 P4₁/AN₁
63 P4₂/AN₂
62 P4₃/AN₃
61 P4₄/AN₄
60 P4₅/AN₅
59 P4₆/AN₆
58 P4₇/AN₇
57 P0₀/A₀
56 P0₁/A₁
55 P0₂/A₂
54 P0₃/A₃
53 P0₄/A₄
52 P0₅/A₅
51 P0₆/A₆
50 P0₇/A₇
49 P1₀/A₈
48 P1₁/A₉
47 P1₂/A₁₀
46 P1₃/A₁₁
45 P1₄/A₁₂
44 P1₅/A₁₃
43 P1₆/A₁₄
42 P1₇/A₁₅
41 NC
1 NC
2 P3₁/EV₂
3 P3₀/EV₁
4 P5₇/DB₇
5 P5₆/DB₆
6 P5₅/DB₅
7 P5₄/DB₄
8 P5₃/DB₃
9 P5₂/DB₂/CE
10 P5₁/DB₁/OE
11 P5₀/DB₀/A₁₄
12 P6₇/W
13 P6₆/R
14 P6₅/CS
15 P6₄/A0
16 P6₃/PRDY
17 P6₂/INT₃
18 P6₁/INT₂
19 P6₀/INT₁
20 WR
21 RD
22 R/W
23 SYNC
24 RESETOUT

■ M50253P 【MITSUBISHI】
(Serial/Parallel Converter)



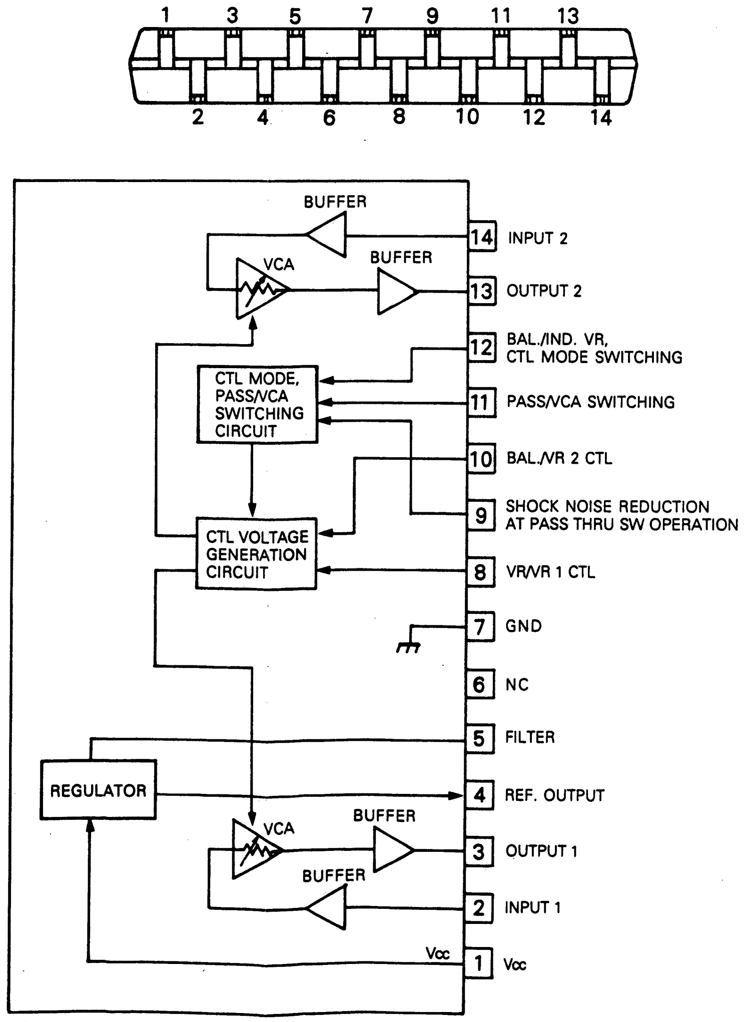
VDD Q11 Q10 Q9 Q8 Q7 Q6 Q5
16 15 14 13 12 11 10 9
XXXXXX
M50253P
1 2 3 4 5 6 7 8
VSS DATA CLK Q0 Q1 Q2 Q3 Q4

■ M50255P 【MITSUBISHI】
(16 Bit Serial/Parallel Converter)



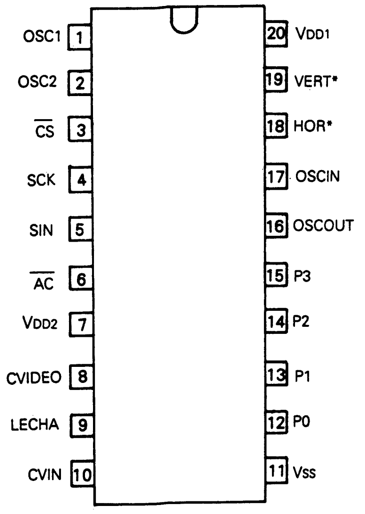
VDD Q15 Q14 Q13 Q12 Q11 Q10 Q9 Q8 Q7
20 19 18 17 16 15 14 13 12 11
1 2 3 4 5 6 7 8 9 10
VSS DATA CLK Q0 Q1 Q2 Q3 Q4 Q5 Q6
VDD 20
VSS 1
CLK 3
DATA 2
INPUT CONTROL
16BIT SHIFT REGISTER
LATCH
BUFFER
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15

■ M51132L 【MITSUBISHI】
(2-Channel Erectrical Volume)

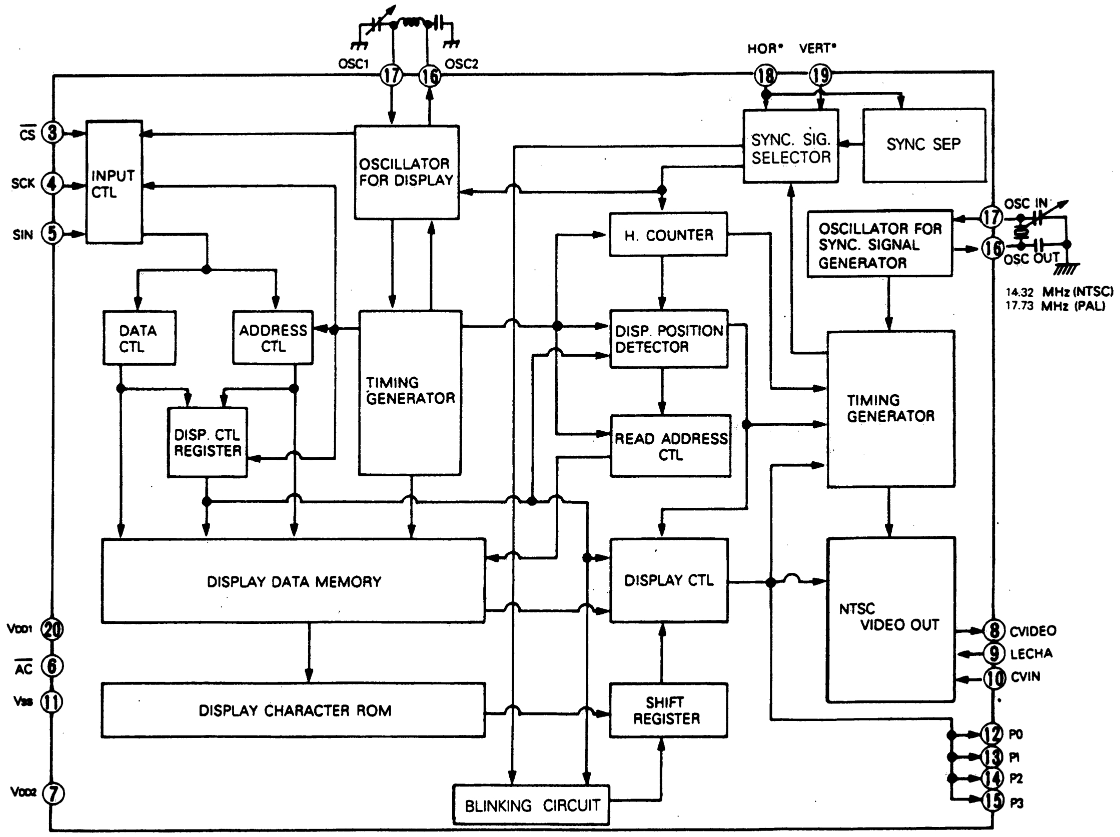


1 3 5 7 9 11 13
2 4 6 8 10 12 14
BUFFER
VCA
BUFFER
14 INPUT 2
13 OUTPUT 2
12 BAL./IND. VR, CTL MODE SWITCHING
11 PASS/VCA SWITCHING
10 BAL./VR 2 CTL
9 SHOCK NOISE REDUCTION AT PASS THRU SW OPERATION
8 VR/VR 1 CTL
7 GND
6 NC
5 FILTER
4 REF. OUTPUT
3 OUTPUT 1
2 INPUT 1
1 Vcc
CTL MODE, PASS/VCA SWITCHING CIRCUIT
CTL VOLTAGE GENERATION CIRCUIT
REGULATOR
VCA
BUFFER
BUFFER
Vcc

■ M35010-089SP 【MITSUBISHI】
(Charactor Generator)



OSC1 1
OSC2 2
CS 3
SCK 4
SIN 5
AC 6
VDD2 7
CVIDEO 8
LECHA 9
CVIN 10
20 VDD1
19 VERT*
18 HOR*
17 OSCIN
16 OSCOUT
15 P3
14 P2
13 P1
12 P0
11 Vss

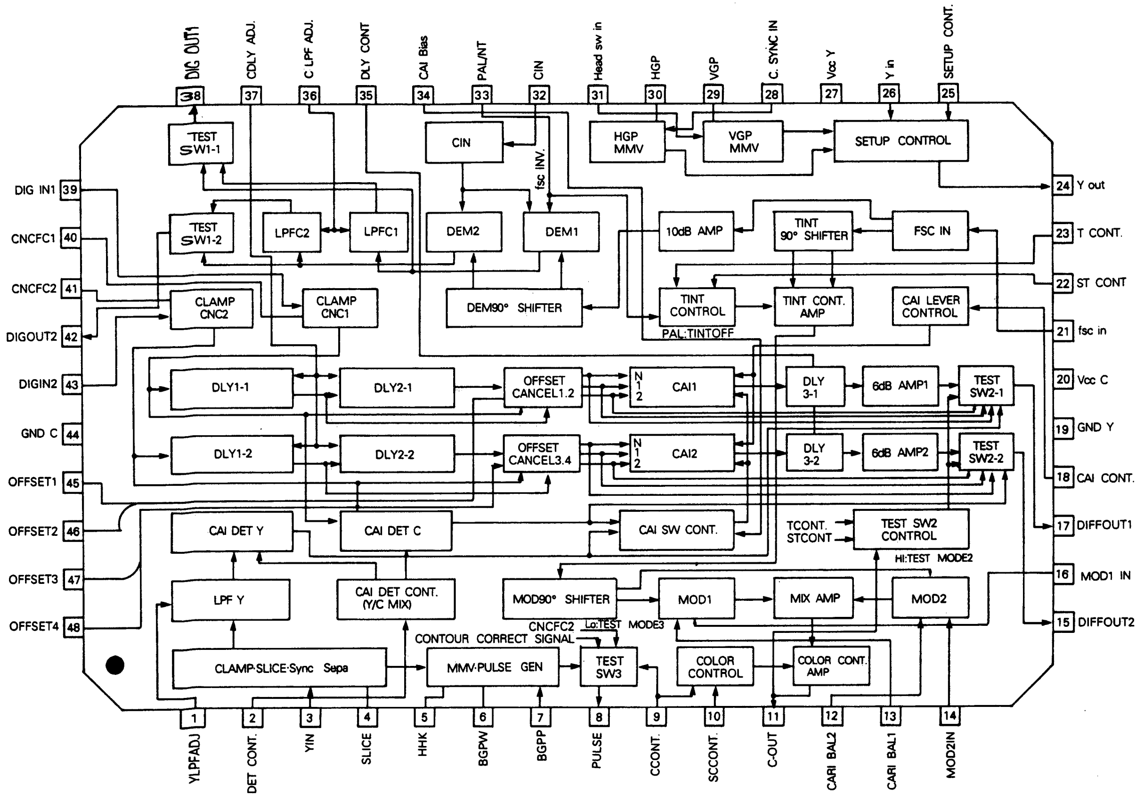


OSC1 17
OSC2 16
HOR* 18
VERT* 19
CS 3
SCK 4
SIN 5
INPUT CTL
OSCILLATOR FOR DISPLAY
SYNC. SIG. SELECTOR
SYNC SEP
H. COUNTER
OSCILLATOR FOR SYNC. SIGNAL GENERATOR
OSC IN 17
OSC OUT 16
14.32 MHz (NTSC)
17.73 MHz (PAL)
DATA CTL
ADDRESS CTL
TIMING GENERATOR
DISP. POSITION DETECTOR
TIMING GENERATOR
DISP. CTL REGISTER
READ ADDRESS CTL
DISPLAY DATA MEMORY
DISPLAY CTL
NTSC VIDEO OUT
8 CVIDEO
9 LECHA
10 CVIN
VDD1 20
AC 6
Vss 11
DISPLAY CHARACTER ROM
SHIFT REGISTER
12 P0
13 P1
14 P2
15 P3
VDD2 7
BLINKING CIRCUIT

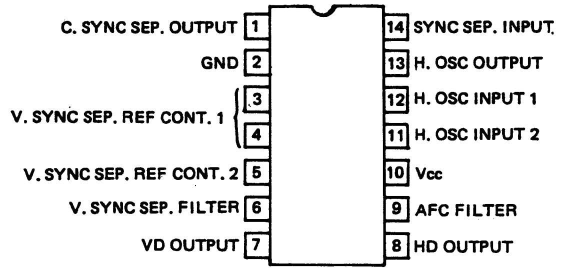
* : Input/output polarity of HOR and VERT is selectable at determination of charactor font.

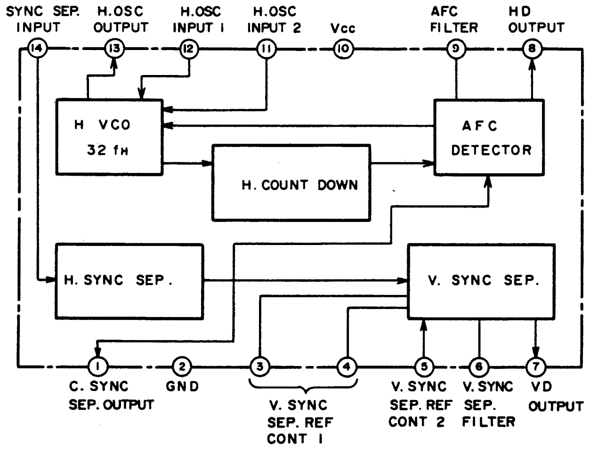
4-77

■ M52350GP 【MITSUBISHI】
(Color Signal Processer)

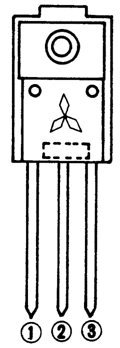

DIG OUT1
CDLY ADJ.
C LPF ADJ.
DLY CONT
CAI Bias
PAL/NT
CIN
Head sw in
HGP
VGP
C. SYNC IN
Vcc Y
Y in
SETUP CONT.
38
37
36
35
34
33
32
31
30
29
28
27
26
25
DIG IN1 39
CNCFC1 40
CNCFC2 41
DIGOUT2 42
DIGIN2 43
GND C 44
OFFSET1 45
OFFSET2 46
OFFSET3 47
OFFSET4 48
24 Y out
23 T CONT.
22 ST CONT
21 fsc in
20 Vcc C
19 GND Y
18 CAI CONT.
17 DIFFOUT1
16 MOD1 IN
15 DIFFOUT2
TEST SW1-1
CIN
HGP MMV
VGP MMV
SETUP CONTROL
fsc INV.
TEST SW1-2
LPFC2
LPFC1
DEM2
DEM1
10dB AMP
TINT 90° SHIFTER
FSC IN
CLAMP CNC2
CLAMP CNC1
DEM90° SHIFTER
TINT CONTROL
TINT CONT. AMP
CAI LEVER CONTROL
PAL:TINTOFF
DLY1-1
DLY2-1
OFFSET CANCEL1.2
CAI1
DLY 3-1
6dB AMP1
TEST SW2-1
DLY1-2
DLY2-2
OFFSET CANCEL3.4
CAI2
DLY 3-2
6dB AMP2
TEST SW2-2
CAI DET Y
CAI DET C
CAI SW CONT.
TCONT.
STCONT
TEST SW2 CONTROL
H:TEST MODE2
LPF Y
CAI DET CONT. (Y/C MIX)
MOD90° SHIFTER
MOD1
MIX AMP
MOD2
CNCFC2
L:TEST MODE3
CONTOUR CORRECT SIGNAL
CLAMP·SLICE·Sync Sepa
MMV·PULSE GEN
TEST SW3
COLOR CONTROL
COLOR CONT. AMP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
YLPFADJ
DET CONT.
YIN
SLICE
HHK
BGPW
BGPP
PULSE
CCONT.
SCCONT
C-OUT
CARI BAL2
CARI BAL1
MOD2IN

■ M52684AP 【MITSUBISHI】
(SYNC Separator and AFC)

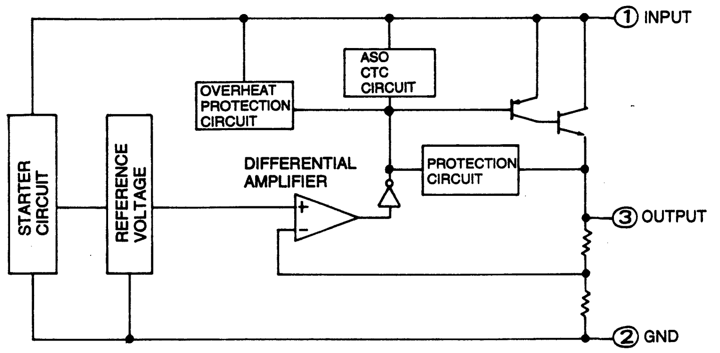

C. SYNC SEP. OUTPUT 1
GND 2
V. SYNC SEP. REF CONT. 1 3
4
V. SYNC SEP. REF CONT. 2 5
V. SYNC SEP. FILTER 6
VD OUTPUT 7
14 SYNC SEP. INPUT
13 H. OSC OUTPUT
12 H. OSC INPUT 1
11 H. OSC INPUT 2
10 Vcc
9 AFC FILTER
8 HD OUTPUT


SYNC SEP. INPUT
H.OSC OUTPUT
H.OSC INPUT 1
H.OSC INPUT 2
Vcc
AFC FILTER
HD OUTPUT
⑭
⑬
⑫
⑪
⑩
⑨
⑧
H VCO 32 fH
AFC DETECTOR
H. COUNT DOWN
H. SYNC SEP.
V. SYNC SEP.
①
②
③
④
⑤
⑥
⑦
C. SYNC SEP. OUTPUT
GND
V. SYNC SEP. REF CONT I
V. SYNC SEP. REF CONT 2
V. SYNC SEP. FILTER
VD OUTPUT

■ M5278D05 【MITSUBISHI】
(3 Terminal Positive Voltage Regulator (+5V))



① INPUT
② GND
③ OUTPUT

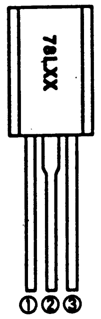

① INPUT
OVERHEAT PROTECTION CIRCUIT
ASO CTC CIRCUIT
STARTER CIRCUIT
REFERENCE VOLTAGE
DIFFERENTIAL AMPLIFIER
PROTECTION CIRCUIT
③ OUTPUT
② GND

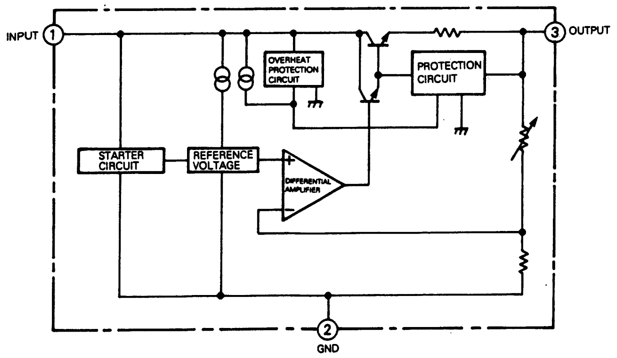
■ M5278D09 【MITSUBISHI】
(See M5278D05.)

■ M5278L09[MITSUBISHI]
(See M5278L05)

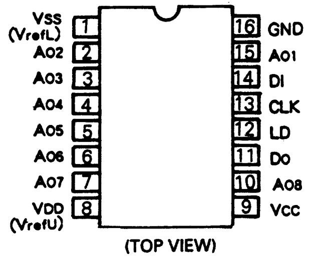
■ M5278L05 【MITSUBISHI】
(3 Terminal Negative Voltage Regulator (−5V))

L TYPE

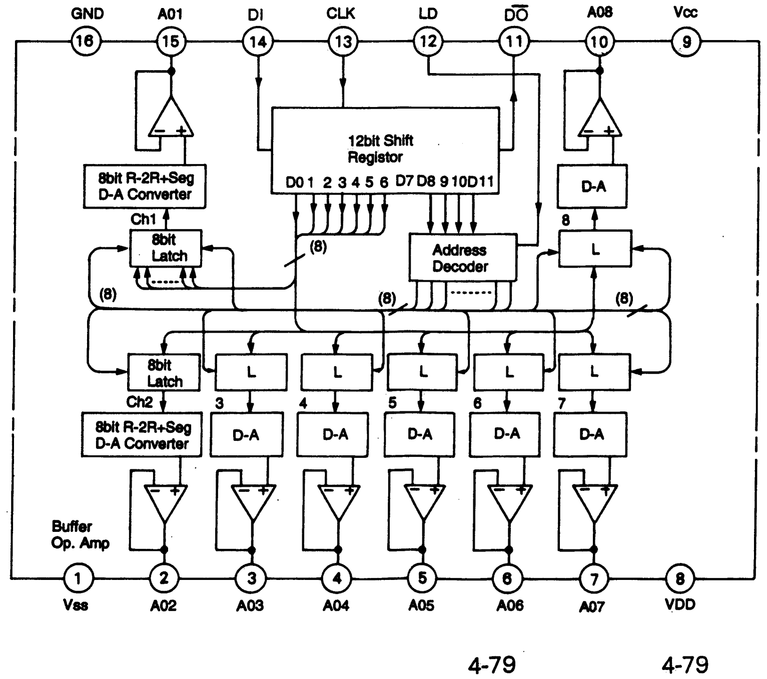



INPUT ①
③ OUTPUT
OVERHEAT PROTECTION CIRCUIT
PROTECTION CIRCUIT
STARTER CIRCUIT
REFERENCE VOLTAGE
DIFFERENTIAL AMPLIFIER
②
GND

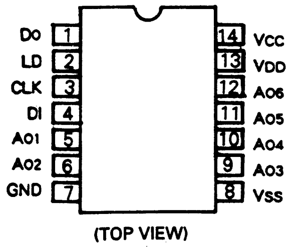
■ M62353GP 【MITSUBISHI】
(8-Bit 8-Channel D/A Converter)


Vss (VrefL) 1
A02 2
A03 3
A04 4
A05 5
A06 6
A07 7
VDD (VrefU) 8
16 GND
15 A01
14 DI
13 CLK
12 LD
11 Do
10 A08
9 Vcc

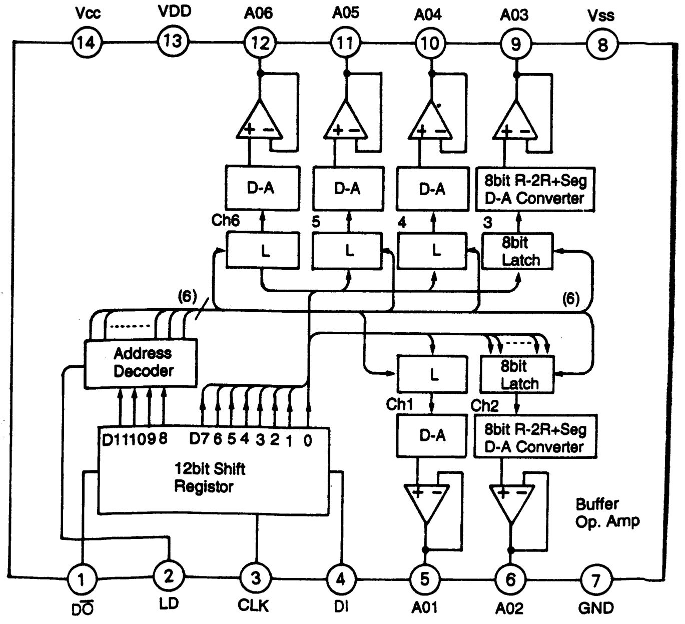
(TOP VIEW)


GND
A01
DI
CLK
LD
DO
A08
Vcc
⑯
⑮
⑭
⑬
⑫
⑪
⑩
⑨
8bit R-2R+Seg D-A Converter
12bit Shift Register
D0 1 2 3 4 5 6 D7 D8 9 10 D11
D-A
Ch1
8bit Latch
(8)
Address Decoder
8
L
(8)
(8)
(8)
8bit Latch
L
L
L
L
L
Ch2
3
4
5
6
7
8bit R-2R+Seg D-A Converter
D-A
D-A
D-A
D-A
D-A
Buffer Op. Amp
①
②
③
④
⑤
⑥
⑦
⑧
Vss
A02
A03
A04
A05
A06
A07
VDD

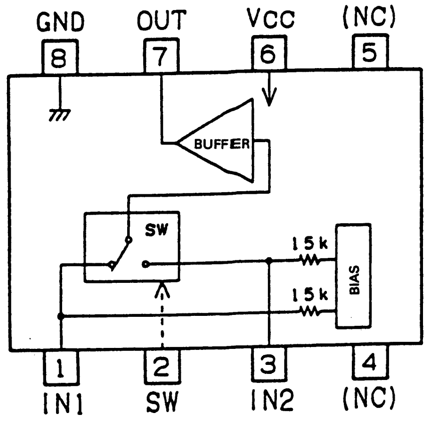
■ M62354FP 【MITSUBISHI】
(8-Bit 6-Channel D/A Converter)


Do 1
LD 2
CLK 3
DI 4
A01 5
A02 6
GND 7
14 Vcc
13 VDD
12 A06
11 A05
10 A04
9 A03
8 Vss

(TOP VIEW)


Vcc
VDD
A06
A05
A04
A03
Vss
⑭
⑬
⑫
⑪
⑩
⑨
⑧
D-A
D-A
D-A
8bit R-2R+Seg D-A Converter
Ch6
5
4
3
L
L
L
8bit Latch
(6)
(6)
Address Decoder
L
8bit Latch
D11 10 9 8
D7 6 5 4 3 2 1 0
12bit Shift Register
Ch1
Ch2
D-A
8bit R-2R+Seg D-A Converter
Buffer Op. Amp
①
②
③
④
⑤
⑥
⑦
DO
LD
CLK
DI
A01
A02
GND

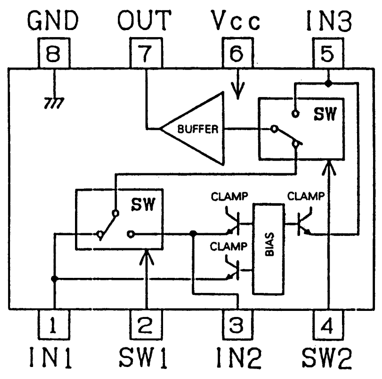
■ MM1111XF 【MITSUMI】
(2 Input 1 Output Video Switch)


GND
OUT
VCC
(NC)
8
7
6
5
BUFFER
SW
15k
15k
BIAS
1
2
3
4
IN1
SW
IN2
(NC)

TRUTH TABLE

SW	OUT
L	IN1
H	IN2

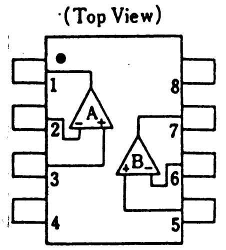
■ MM1117XF 【MITSUMI】
(3 Input-1 Output Video Switch)


GND
OUT
Vcc
IN3
8
7
6
5
BUFFER
SW
SW
CLAMP
CLAMP
CLAMP
BIAS
1
2
3
4
IN1
SW1
IN2
SW2

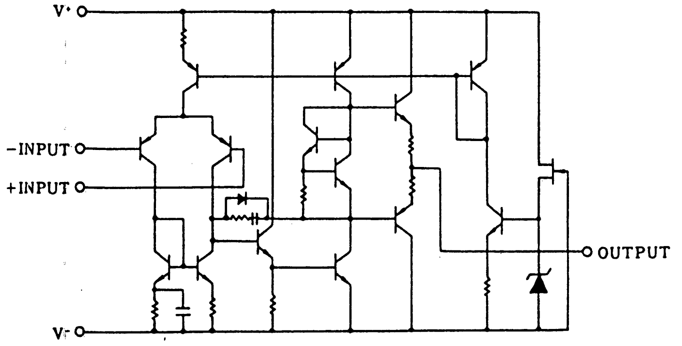
TRUTH TABLE

SW1	SW2	OUT *
L	L	IN1
H	L	IN2
—	H	IN3

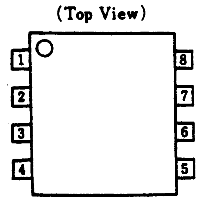
■ NJM2068MD 【JRC】
(Dual Low-Noise Op.Amp)


(Top View)
1
2
3
4
5
6
7
8
A
B

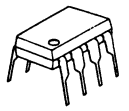
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺


V⁺
−INPUT
+INPUT
OUTPUT
V⁻

■ NJM2234M 【JRC】
(3 Input Single Video Switch)

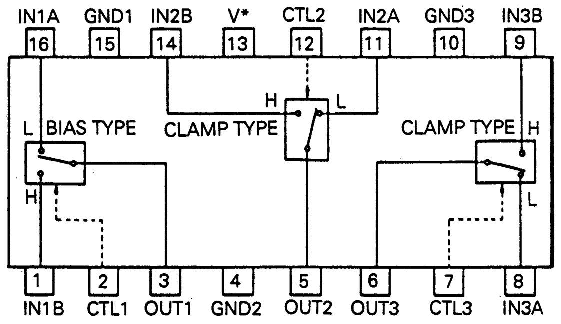

(Top View)
1
2
3
4
5
6
7
8

1. $V_{in}1$
2. SW1
3. $V_{in}2$
4. SW2
5. $V_{in}3$
6. V^+
7. V_{out}
8. GND

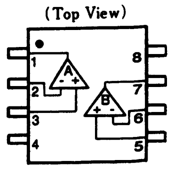


NJM2234D

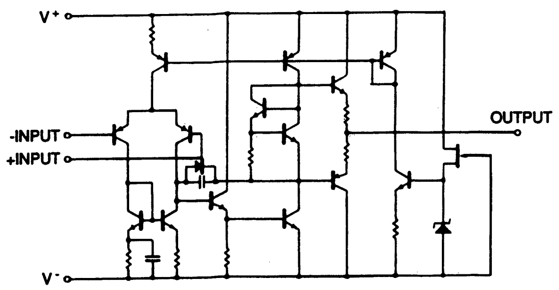
■ NJM2285M 【JRC】
(Video Switch)


IN1A
GND1
IN2B
V*
CTL2
IN2A
GND3
IN3B
16
15
14
13
12
11
10
9
L
BIAS TYPE
H
CLAMP TYPE
H
L
CLAMP TYPE
H
L
1
2
3
4
5
6
7
8
IN1B
CTL1
OUT1
GND2
OUT2
OUT3
CTL3
IN3A

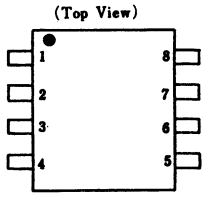
■ NJM4560D 【JRC】
(Dual Op.Amp)


(Top View)
1
2
3
4
5
6
7
8
A
B

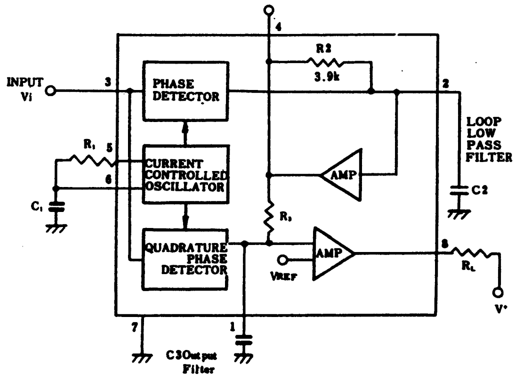
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺


V⁺
-INPUT
+INPUT
OUTPUT
V⁻

■ NJM567M 【JRC】
(Tone Decoder)

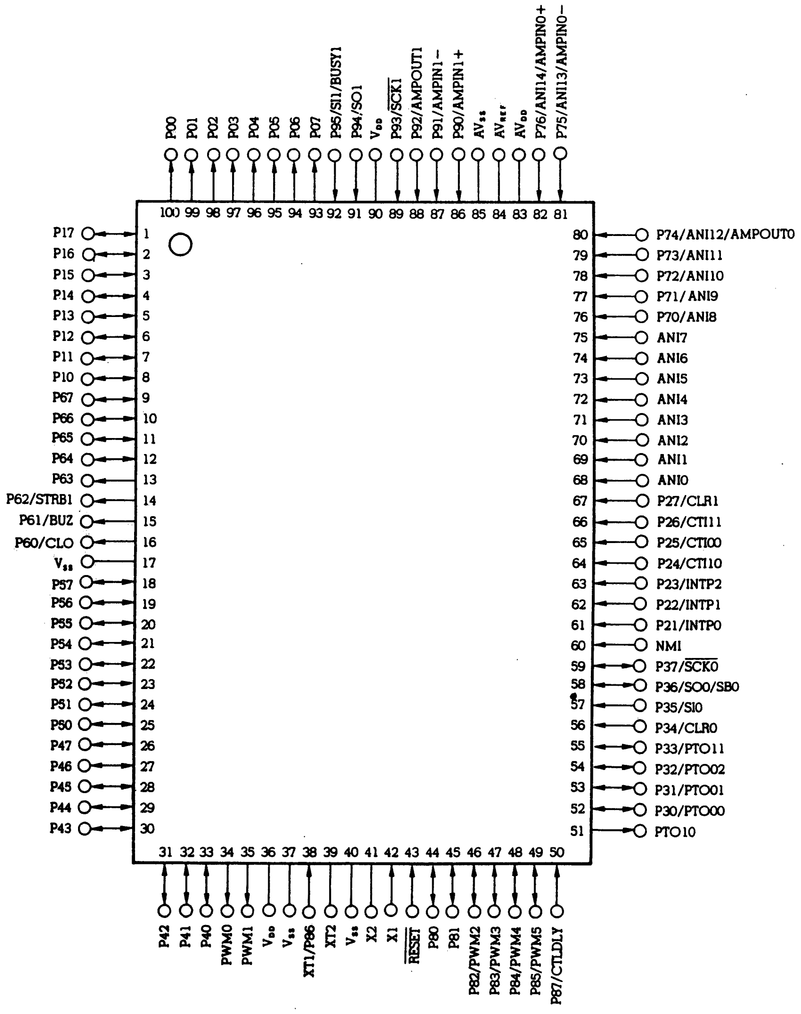

(Top View)
1
2
3
4
5
6
7
8

1. OUTPUT FILTER
2. LOW-PASS FILTER
3. INPUT
4. V⁺
5. TIMING R
6. TIMING CR
7. GROUND
8. OUTPUT

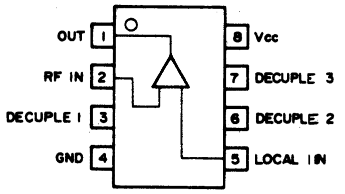

INPUT
Vi
3
4
2
PHASE DETECTOR
R2
3.9k
LOOP LOW PASS FILTER
C2
R1
5
6
CURRENT CONTROLLED OSCILLATOR
C1
AMP
R3
QUADRATURE PHASE DETECTOR
VREF
AMP
8
RL
V⁺
7
1
C3Output Filter

■ PGD30620C-XX-X 【JVC】
(See M27C512-15F1.)

■ SC78148GF-026 【JVC】
(8-Bit Micro Computer)


P00
P01
P02
P03
P04
P05
P06
P07
P95/SI1/BUSY1
P94/SO1
V_{DD}
P93/$\overline{SCK1}$
P92/AMPOUT1
P91/AMPIN1−
P90/AMPIN1+
AV_{SS}
AV_{REF}
AV_{DD}
P76/ANI14/AMPIN0+
P75/ANI13/AMPIN0−
100
99
98
97
96
95
94
93
92
91
90
89
88
87
86
85
84
83
82
81
P17
P16
P15
P14
P13
P12
P11
P10
P67
P66
P65
P64
P63
P62/STRB1
P61/BUZ
P60/CLO
V_{SS}
P57
P56
P55
P54
P53
P52
P51
P50
P47
P46
P45
P44
P43
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
54
53
52
51
P74/ANI12/AMPOUT0
P73/ANI11
P72/ANI10
P71/ANI9
P70/ANI8
ANI7
ANI6
ANI5
ANI4
ANI3
ANI2
ANI1
ANI0
P27/CLR1
P26/CTI11
P25/CTI00
P24/CTI10
P23/INTP2
P22/INTP1
P21/INTP0
NMI
P37/$\overline{SCK0}$
P36/SO0/SB0
P35/SI0
P34/CLR0
P33/PTO11
P32/PTO02
P31/PTO01
P30/PTO00
PTO10
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
P42
P41
P40
PWM0
PWM1
V_{DD}
V_{SS}
XT1/P86
XT2
V_{SS}
X2
X1
$\overline{RESET}$
P80
P81
P82/PWM2
P83/PWM3
P84/PWM4
P85/PWM5
P87/CTLDLY

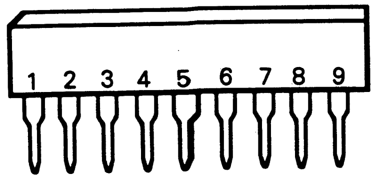
■ SN16913P 【TEXAS】
(Double Balanced Mixer)

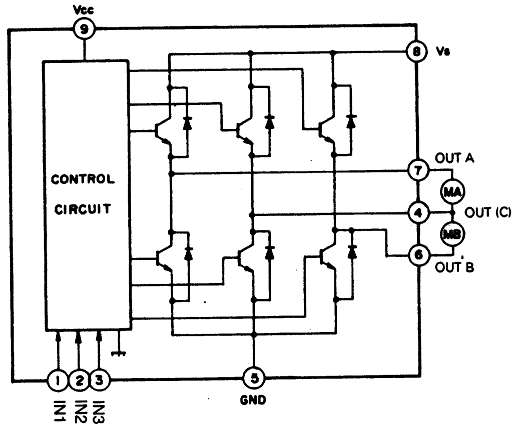

OUT
RF IN
DECUPLE 1
GND
1
2
3
4
8
7
6
5
Vcc
DECUPLE 3
DECUPLE 2
LOCAL IN

(TOP VIEW)

■ TA8405S 【TOSHIBA】

(DC Motor Driver)




Vcc
9
8 Vs
CONTROL CIRCUIT
7 OUT A
MA
4 OUT (C)
MB
6 OUT B
1 2 3
IN1 IN2 IN3
5 GND

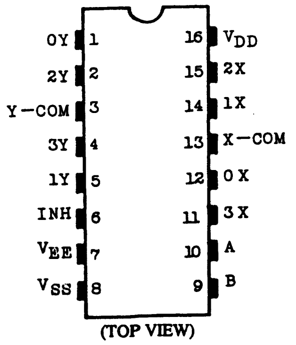
TRUTH TABLE

INPUT			INPUT			MODE	
IN 1	IN 2	IN 3	OUT (C)	OUT A	OUT B	MA	MB
0	0	1/0	*	*	*	STOP	STOP
1	0	0	H	L	*	CW/CCW	STOP
1	0	1	L	H	*	CCW/CW	STOP
0	1	0	H	*	L	STOP	CW/CCW
0	1	1	L	*	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

*: High Impedance

■ TC4052BF 【TOSHIBA】

(Dual 4 Channel Analog Multiplexers/ Demultiplexers)

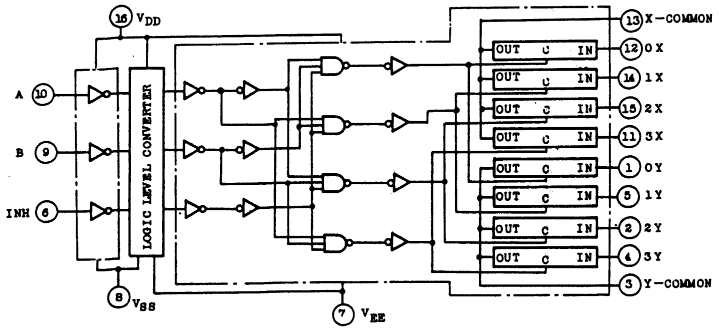

0Y 1
2Y 2
Y-COM 3
3Y 4
1Y 5
INH 6
VEE 7
VSS 8
16 VDD
15 2X
14 1X
13 X-COM
12 0X
11 3X
10 A
9 B
(TOP VIEW)

TRUTH TABLE

CONTROL INPUTS			"ON" CHANNEL
INHIBIT	B	A	TC4052BP TC4052BF
L	L	L	0X、0Y
L	L	H	1X、1Y
L	H	L	2X、2Y
L	H	H	3X、3Y
L	L	L	—
L	L	H	—
L	H	L	—
L	H	H	—
H	※	※	NONE

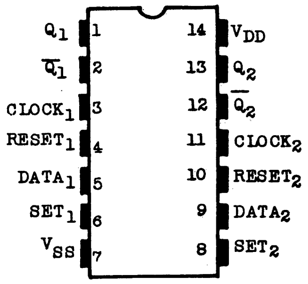
※ Don't Care

LOGIC DIAGRAM


16 VDD
A 10
B 9
INH 6
LOGIC LEVEL CONVERTER
OUT C IN
13 X-COMMON
12 0X
14 1X
15 2X
11 3X
1 0Y
5 1Y
2 2Y
4 3Y
3 Y-COMMON
8 VSS
7 VEE

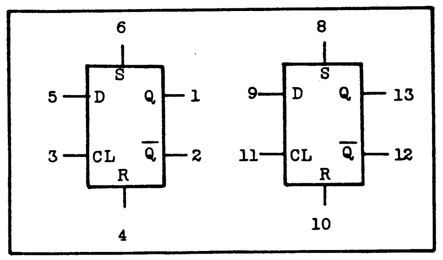
■ TC4013BF 【TOSHIBA】

(Dual D-Type Flip Flop)


Q1 1
Q̄1 2
CLOCK1 3
RESET1 4
DATA1 5
SET1 6
VSS 7
14 VDD
13 Q2
12 Q̄2
11 CLOCK2
10 RESET2
9 DATA2
8 SET2

(TOP VIEW)

BLOCK DIAGRAM


6
5 D Q 1
3 CL Q̄ 2
S
R
4
8
9 D Q 13
11 CL Q̄ 12
S
R
10

TRUTH TABLE

INPUTS				OUTPUTS	
RESET	SET	DATA	CLOCK △	Qn+1	Q̄n+1
L	H	✱	✱	H	L
H	L	✱	✱	L	H
H	H	✱	✱	H	H
L	L	L	_⌐	L	H
L	L	H	_⌐	H	L
L	L	✱	¬_	Q_n•	$\overline{Q}_n$•

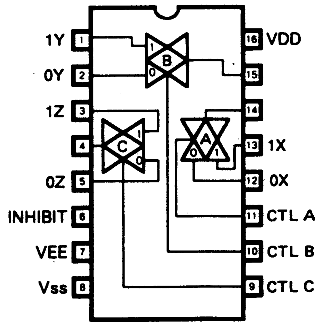
✱ : Don't Care

△ : Level Change

• : No Change

■ TC4053BF 【TOSHIBA】

(Triple 2 Channel Analog Multiplexers/ Demultiplexers)


1Y 1
0Y 2
1Z 3
4
0Z 5
INHIBIT 6
VEE 7
Vss 8
16 VDD
15
14
13 1X
12 0X
11 CTL A
10 CTL B
9 CTL C
A
B
C

(TOP VIEW)

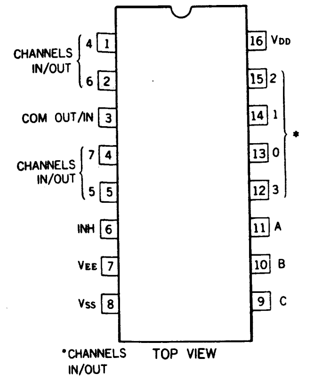
TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	4053BP 4053BF
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y,0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care.

■ TC4051BF 【TOSHIBA】

(Single 8 Channel Analog Multiplexers/ Demultiplexers)

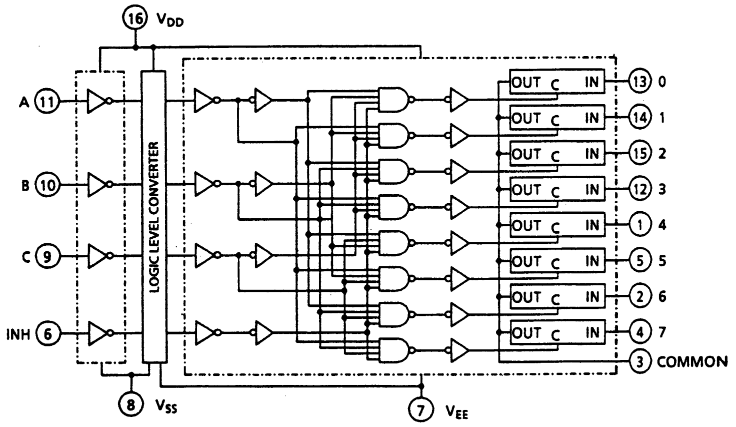

CHANNELS IN/OUT 4 1
6 2
COM OUT/IN 3
CHANNELS IN/OUT 7 4
5 5
INH 6
VEE 7
Vss 8
16 VDD
15 2
14 1
13 0
12 3
11 A
10 B
9 C
*
*CHANNELS IN/OUT
TOP VIEW

TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C△	B	A	4051
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	※	※	※	NONE

※ Don't Care.

LOGIC DIAGRAM

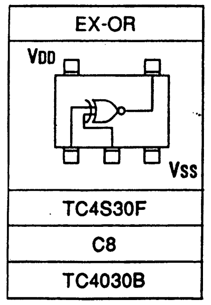

16 VDD
A 11
B 10
C 9
INH 6
LOGIC LEVEL CONVERTER
OUT C IN
13 0
14 1
15 2
12 3
1 4
5 5
2 6
4 7
3 COMMON
8 Vss
7 VEE

■ TC4053BP 【TOSHIBA】

(See TC4053BF.)

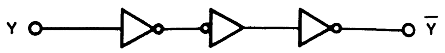
■ TC4S30F 【TOSHIBA】

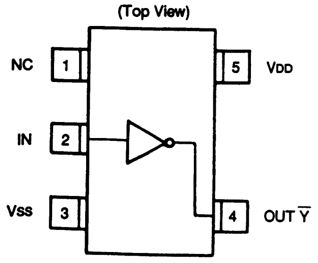
(Single Exclusive OR Gate)


EX-OR
VDD
VSS
TC4S30F
C8
TC4030B

■ TC4S69F 【TOSHIBA】

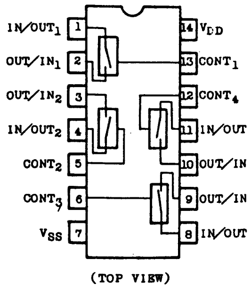
(Inverter Gate)




(Top View)
NC 1
IN 2
Vss 3
5 VDD
4 OUT Ȳ

■ TC4066BP 【TOSHIBA】

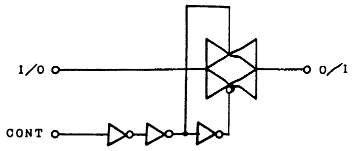
(Quad Bilateral Switch)


IN/OUT1 1
OUT/IN1 2
OUT/IN2 3
IN/OUT2 4
CONT2 5
CONT3 6
VSS 7
14 VDD
13 CONT1
12 CONT4
11 IN/OUT4
10 OUT/IN4
9 OUT/IN3
8 IN/OUT3
(TOP VIEW)

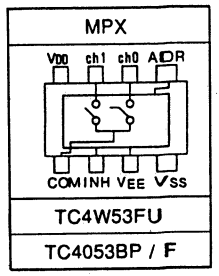
TRUTH TABLE

CONTROL	Impedance Be tween IN/OUT-OUT/IN ✱
H	0.5~5×10 ^{2}Ω
L	>10^{9}Ω

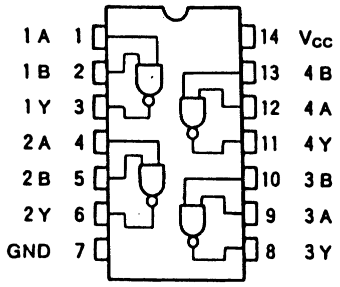
LOGIC DIAGRAM



■ TC4W53F 【TOSHIBA】
(2-Channel Multiplexer)


MPX
VDD ch1 ch0 ADR
COM INH VEE VSS
TC4W53FU
TC4053BP / F

■ TC74HC00AF 【TOSHIBA】
(Quad 2-Input NAND Gates)

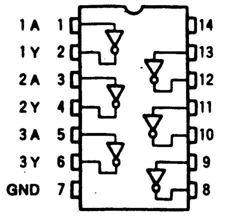

1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7
14 Vcc
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

(TOP VIEW)

TRUE Table

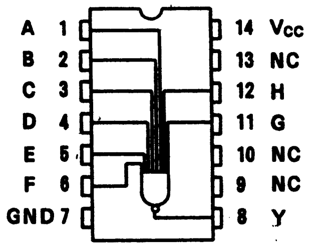
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

■ TC74HC04AF 【TOSHIBA】
(Hex Inverters)


1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

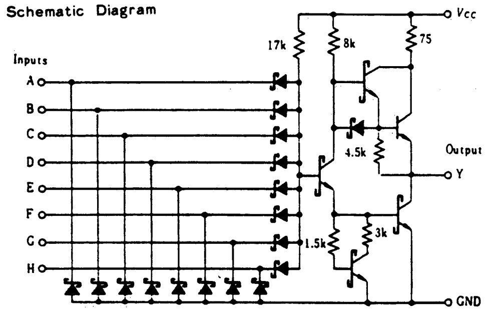
(TOP VIEW)

■ TC74HC30AF 【TOSHIBA】
(8-Input NAND Gates)


A 1
B 2
C 3
D 4
E 5
F 6
GND 7
14 Vcc
13 NC
12 H
11 G
10 NC
9 NC
8 Y

(TOP VIEW)
NC:No Connection

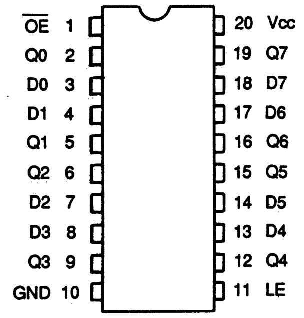
Schematic Diagram


Vcc
17k
8k
75
Inputs
A
B
C
D
E
F
G
H
4.5k
Output
Y
1.5k
3k
GND

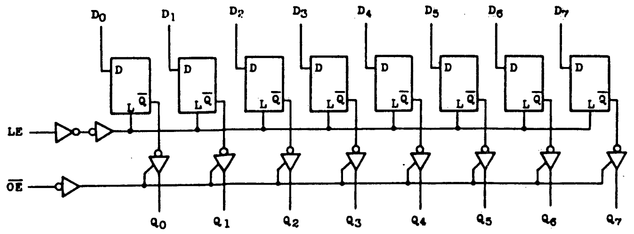
TRUE Table

INPUTS								OUTPUTS
A	B	C	D	E	F	G	H	
H	H	H	H	H	H	H	H	L
L	X	X	X	X	X	X	X	H
X	L	X	X	X	X	X	X	H
X	X	L	X	X	X	X	X	H
X	X	X	L	X	X	X	X	H
X	X	X	X	L	X	X	X	H
X	X	X	X	X	L	X	X	H
X	X	X	X	X	X	L	X	H

■ TC74HC373AF 【TOSHIBA】
(Octal D-Type Latch With NON-Inverted 3-State Output)


OE 1
Q0 2
D0 3
D1 4
Q1 5
Q2 6
D2 7
D3 8
Q3 9
GND 10
20 Vcc
19 Q7
18 D7
17 D6
16 Q6
15 Q5
14 D5
13 D4
12 Q4
11 LE

(Top View)

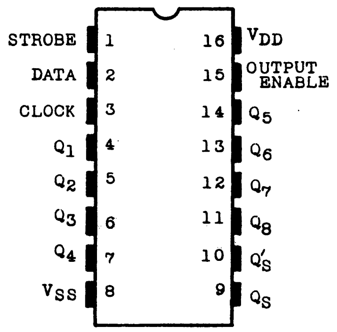

D0
D1
D2
D3
D4
D5
D6
D7
D
L
Q
LE
OE
Q0
Q1
Q2
Q3
Q4
Q5
Q6
Q7

TRUE Table

INPUTS			OUTPUTS
OE	LE	D	
H	X	X	Z
L	L	X	Q_n
L	H	L	L
L	H	H	H

X : Don't Care
Z : Hi impedance
Qn : Q output level before the LE become "L".

■ TC74HC4094AF 【TOSHIBA】
(8 Stage Bus Compatible Shift/Store Register)


STROBE 1
DATA 2
CLOCK 3
Q1 4
Q2 5
Q3 6
Q4 7
VSS 8
16 VDD
15 OUTPUT ENABLE
14 Q5
13 Q6
12 Q7
11 Q8
10 Q'S
9 QS

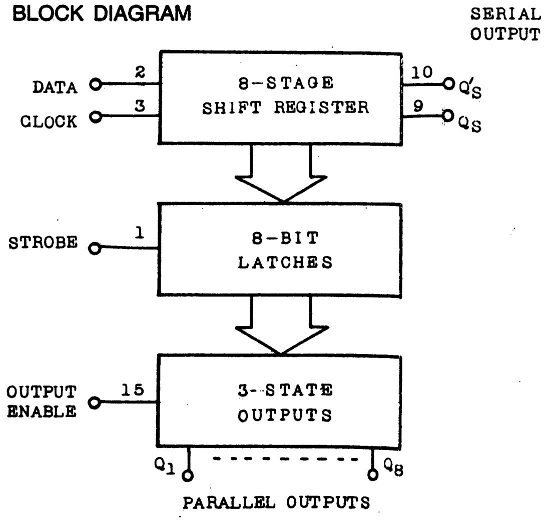
(TOP VIEW)

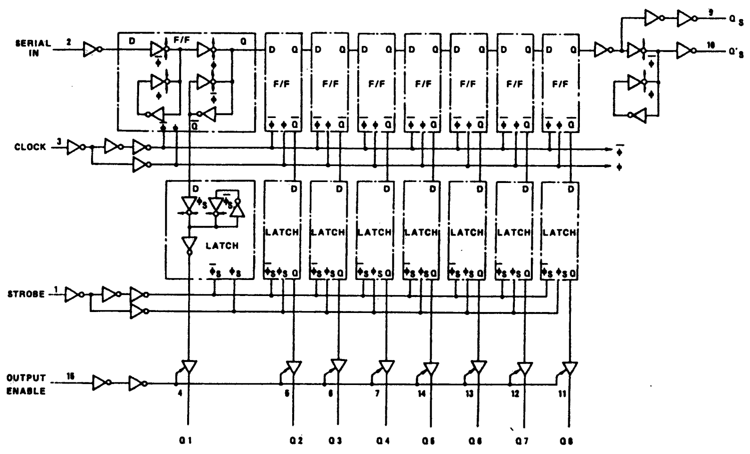
TRUTH TABLE

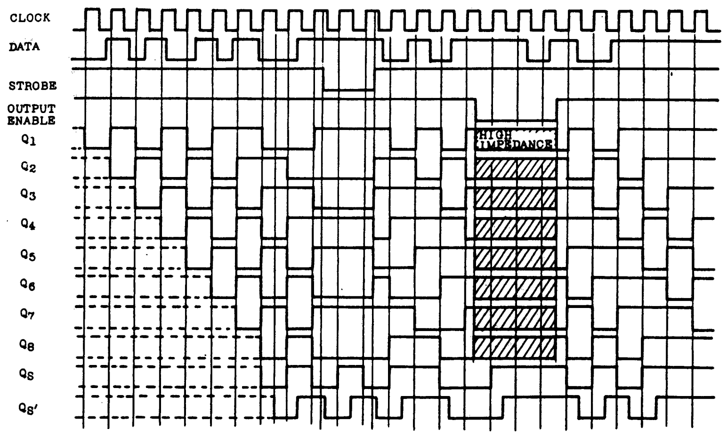
CL	OE	ST	D	PO		SO	
				Q_1	Q_n	Q_S	Q'_S
↑	H	H	L	L	Q_n-1	Q_7	NC
↑	H	H	H	H	Q_n-1	Q_7	NC
↑	H	L	*	NC	NC	Q_7	NC
↑	L	*	*	HZ	HZ	Q_7	NC
↓	H	*	*	NC	NC	NC	Q_S
↓	L	*	*	HZ	HZ	NC	Q_S

CL = Clock
OE = Output Enable
ST = Strobe
D = Data
PO = Parallel Outputs
SO = Serial Output
* = Don't care
NC = No Change
HZ = High Impedance

BLOCK DIAGRAM

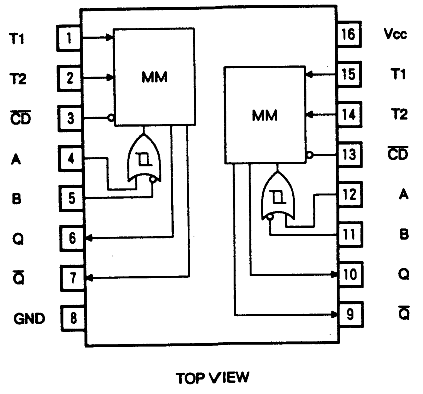

SERIAL OUTPUT
DATA
2
CLOCK
3
8-STAGE SHIFT REGISTER
10
Q'S
9
QS
STROBE
1
8-BIT LATCHES
OUTPUT ENABLE
15
3-STATE OUTPUTS
Q1
Q8
PARALLEL OUTPUTS

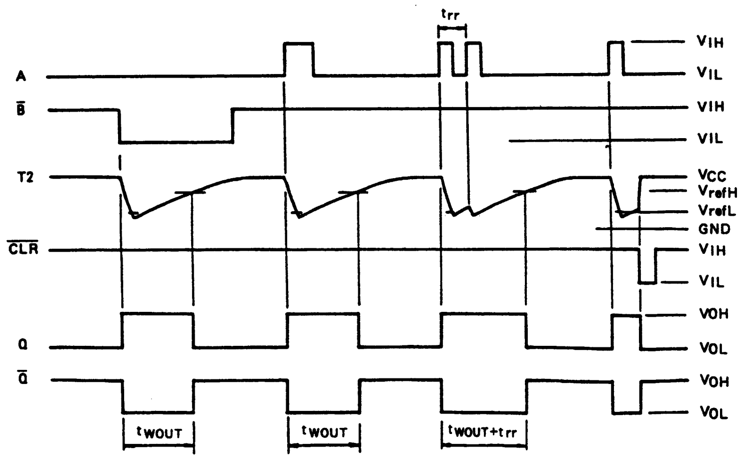

SERIAL IN
2
CLOCK
3
STROBE
1
OUTPUT ENABLE
15
D
Q
F/F
LATCH
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
QS
Q'S
9
10



4-82

■ TC74HC4538AF 【TOSHIBA】
(Dual Retriggerable Monostable Multivibrator)


T1
T2
CD
A
B
Q
Q
GND
Vcc
T1
T2
CD
A
B
Q
Q
MM
MM
TOP VIEW


trr
A
B
T2
CLR
Q
Q
VIH
VIL
VIH
VIL
Vcc
VrefH
VrefL
GND
VIH
VIL
VOH
VOL
VOH
VOL
tWOUT
tWOUT
tWOUT+trr

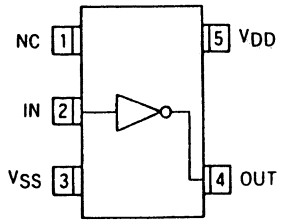
TRUE Table

INPUT			OUTPUT		NOTE
A	B̄	C̄D̄	Q	Q̄	
↑	H	H	⊓	⊔	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↓	H	⊓	⊔	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

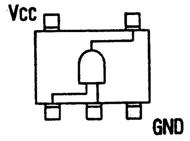
X:Don't Care

■ TC7S04F 【TOSHIBA】
(Invertor)

Pin arangement

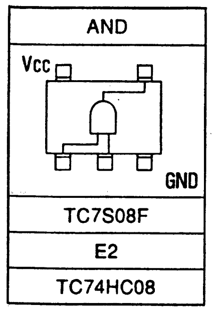

NC 1
IN 2
VSS 3
5 VDD
4 OUT

■ TC7S08F 【TOSHIBA】
(2 Input Single AND Gate)

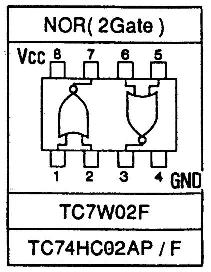


TRUE Table

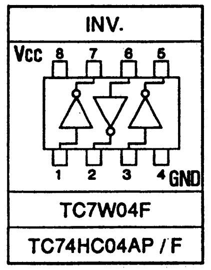
A	B	X
L	L	L
L	H	L
H	L	L
H	H	H


AND
Vcc
GND
TC7S08F
E2
TC74HC08

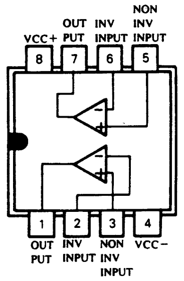
■ TC7W02F 【TOSHIBA】
(2 Input Dual NOR Gate)


NOR(2Gate)
Vcc 8 7 6 5
1 2 3 4 GND
TC7W02F
TC74HC02AP / F

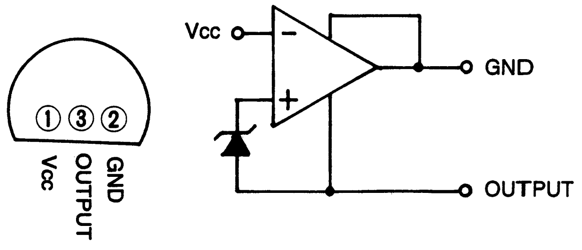
■ TC7W04F 【TOSHIBA】
(Triple Inverter Gate)


INV.
Vcc 8 7 6 5
1 2 3 4 GND
TC7W04F
TC74HC04AP / F

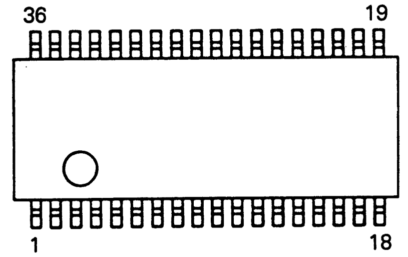
■ TL082CPS 【TEXAS】
(JG OR P Dual-In-Line Package)

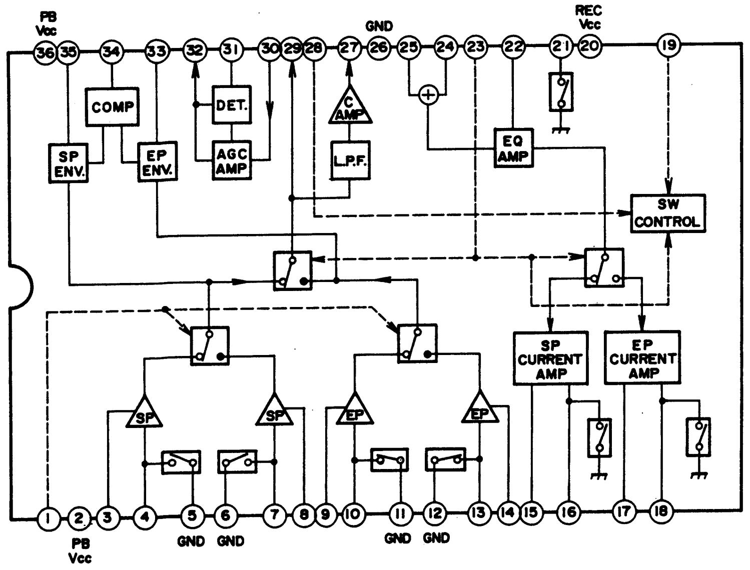

VCC+
OUT PUT
INV INPUT
NON INV INPUT
8 7 6 5
1 2 3 4
OUT PUT
INV INPUT
NON INV INPUT
VCC-

■ TL431CLP 【TOSHIBA】
(Voltage Regulator)

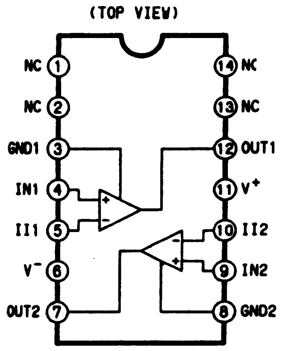

① ③ ②
Vcc
OUTPUT
GND
Vcc
GND
OUTPUT

■ UPC2320GS 【NEC】
(Head Amp.)

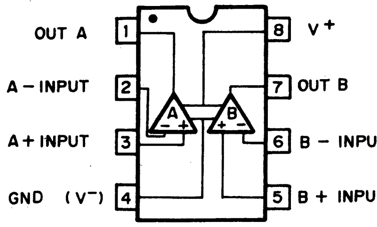


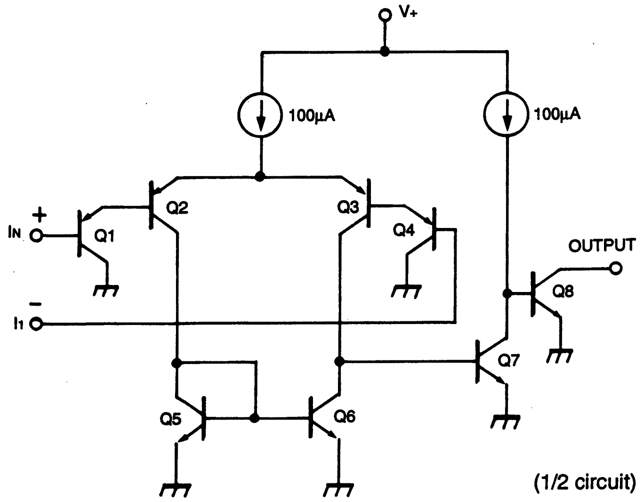

PB Vcc
GND
REC Vcc
COMP
DET.
SP ENV.
EP ENV.
AGC AMP
C AMP
L.P.F.
EQ AMP
SW CONTROL
SP CURRENT AMP
EP CURRENT AMP
SP
SP
EP
EP
PB Vcc
GND GND
GND GND

■ UPC319G2 【NEC】
(Dual Comparator)


(TOP VIEW)
NC 1
NC 2
GND1 3
IN1 4
II1 5
V- 6
OUT2 7
14 NC
13 NC
12 OUT1
11 V+
10 II2
9 IN2
8 GND2

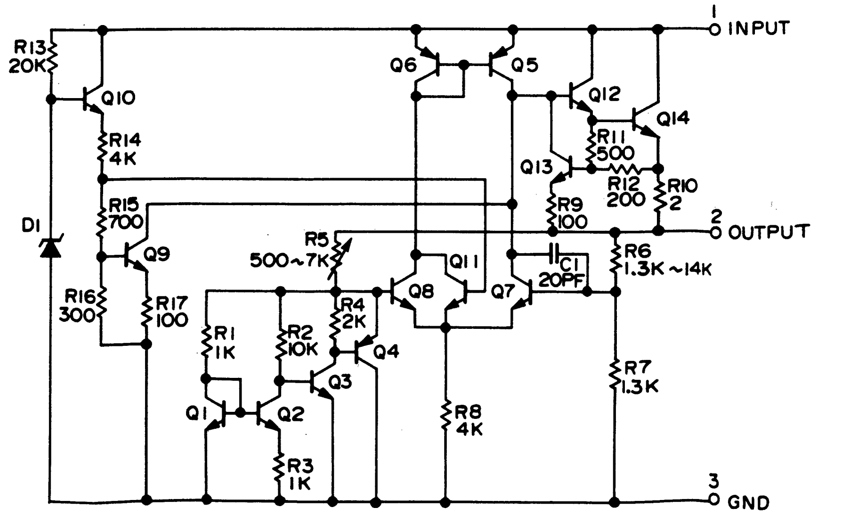
■ UPC393C 【NEC】
(Dual Comparator)


OUT A 1
A - INPUT 2
A + INPUT 3
GND (V-) 4
8 V+
7 OUT B
6 B - INPUT
5 B + INPUT

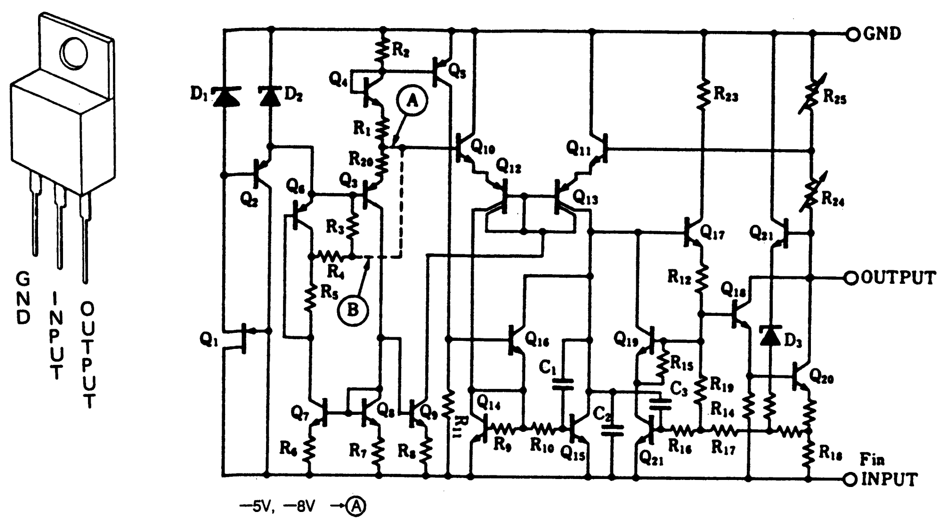

V+
100μA
100μA
IN
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
OUTPUT

(1/2 circuit)

■ UPC78L05T 【NEC】
(Regulator)


1 INPUT
2 OUTPUT
3 GND
R13 20K
Q10
R14 4K
R15 700
D1
Q9
R16 300
R17 100
R1 1K
Q1
Q2
R2 10K
R3 1K
Q3
Q4
R4 2K
R5 500~7K
Q8
Q11
Q7
R8 4K
Q6
Q5
Q12
Q14
R11 500
Q13
R9 100
R12 200
R10 2
C1 20PF
R6 1.3K~14K
R7 1.3K

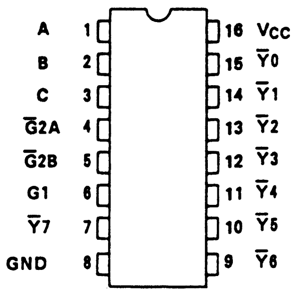
■ UPC7912HF 【NEC】
(3-Terminal Negative Voltage Regulator
(−12V))


GND
INPUT
OUTPUT
GND
OUTPUT
Fin
INPUT
D1 D2 D3
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21
R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R23 R24 R25
C1 C2 C3
Ⓐ Ⓑ

−5V, −8V →Ⓐ

−12V, −15V, −18V, −24V →Ⓑ

■ UPD74HC138G 【NEC】
(3-Line to 8-Line Decoders/Demultiplexers)


A 1
B 2
C 3
G2A 4
G2B 5
G1 6
Y7 7
GND 8
16 Vcc
15 Y0
14 Y1
13 Y2
12 Y3
11 Y4
10 Y5
9 Y6

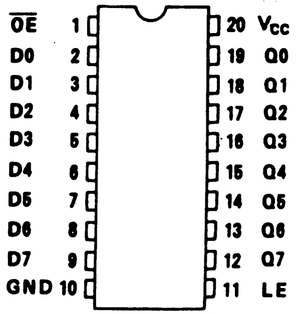
(TOP VIEW)

TRUE Table

INPUTS						OUTPUTS								SELECTED OUTPUT
ENABLE			SELECT											
G1	$\overline{G2A}$	$\overline{G2B}$	C	B	A	$\overline{Y0}$	$\overline{Y1}$	$\overline{Y2}$	$\overline{Y3}$	$\overline{Y4}$	$\overline{Y5}$	$\overline{Y6}$	$\overline{Y7}$	
L	X	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	H	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	X	H	X	X	X	H	H	H	H	H	H	H	H	NONE
H	L	L	L	L	L	L	H	H	H	H	H	H	H	$\overline{Y0}$
H	L	L	L	L	H	H	L	H	H	H	H	H	H	$\overline{Y1}$
H	L	L	L	H	L	H	H	L	H	H	H	H	H	$\overline{Y2}$
H	L	L	L	H	H	H	H	H	L	H	H	H	H	$\overline{Y3}$
H	L	L	H	L	L	H	H	H	H	L	H	H	H	$\overline{Y4}$
H	L	L	H	L	H	H	H	H	H	H	L	H	H	$\overline{Y5}$
H	L	L	H	H	L	H	H	H	H	H	H	L	H	$\overline{Y6}$
H	L	L	H	H	H	H	H	H	H	H	H	H	L	$\overline{Y7}$

X : DONT' CARE

■ UPD74HC573GS 【NEC】
(Octal D-Type Latch With NON-Inverted
3-State Outputs)


OE 1
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
GND 10
20 Vcc
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
11 LE

(TOP VIEW)

TRUE Table

INPUTS			OUTPUTS
$\overline{OE}$	LE	D	Q
H	X	X	HZ
L	L	X	Q_n
L	H	L	L
L	H	H	H

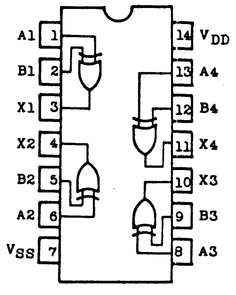
X : Don't care.
Z : Hi impedance
Q_n : Level of Q output before LE becomes "L".

■ UPD4013BG 【NEC】
(See TC4013BF.)

■ UPD4053BG 【NEC】
(See TC4053BF.)

■ UPD4066BG 【NEC】
(See TC4066BP.)

■ UPD4030BG 【NEC】
(Quad 2 Input Exclusive OR Gate)

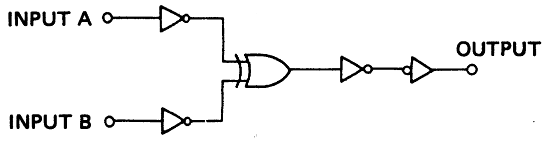

A1 1
B1 2
X1 3
X2 4
B2 5
A2 6
VSS 7
14 VDD
13 A4
12 B4
11 X4
10 X3
9 B3
8 A3

TOP VIEW

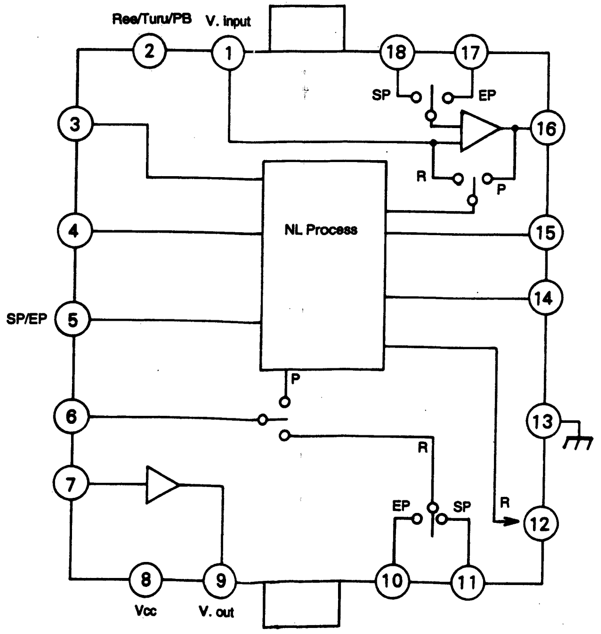
TRUTH TABLE

INPUT		OUTPUT
A	B	X
L	L	L
L	H	H
H	L	H
H	H	L

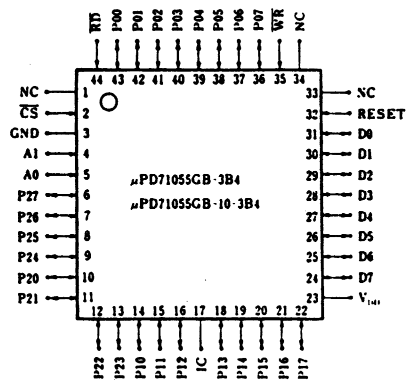
BLOCK DIAGRAM

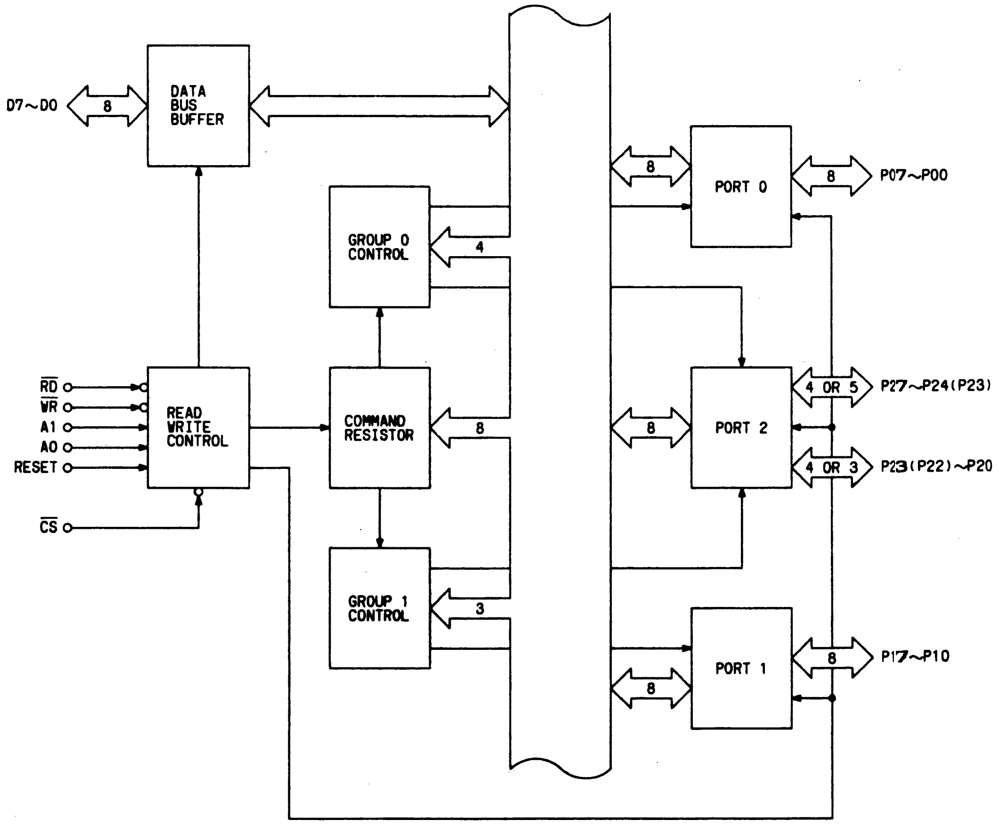

INPUT A
INPUT B
OUTPUT

■ VC2076MP-XE 【JVC】
(FM Signal Processer)


Rec/Turn/PB
V. Input
SP
EP
R
P
NL Process
SP/EP
P
R
EP
SP
R
Vcc
V. out
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

■ UPD71055GB 【NEC】
(Parallel Input/Output Port)


RD P00 P01 P02 P03 P04 P05 P06 P07 WR NC
44 43 42 41 40 39 38 37 36 35 34
NC 1
CS 2
GND 3
A1 4
A0 5
P27 6
P26 7
P25 8
P24 9
P20 10
P21 11
33 NC
32 RESET
31 D0
30 D1
29 D2
28 D3
27 D4
26 D5
25 D6
24 D7
23 Vdd
μPD71055GB-3B4
μPD71055GB-10-3B4
12 13 14 15 16 17 18 19 20 21 22
P22 P23 P10 P11 P12 IC P13 P14 P15 P16 P17


D7~D0
8
DATA BUS BUFFER
GROUP 0 CONTROL
4
READ WRITE CONTROL
COMMAND RESISTOR
8
GROUP 1 CONTROL
3
RD
WR
A1
A0
RESET
CS
PORT 0
8
8
P07~P00
PORT 2
8
4 OR 5
P27~P24(P23)
4 OR 3
P23(P22)~P20
PORT 1
8
8
P17~P10

■ UPD74HC04G 【NEC】
(See TC74HC04AF.)

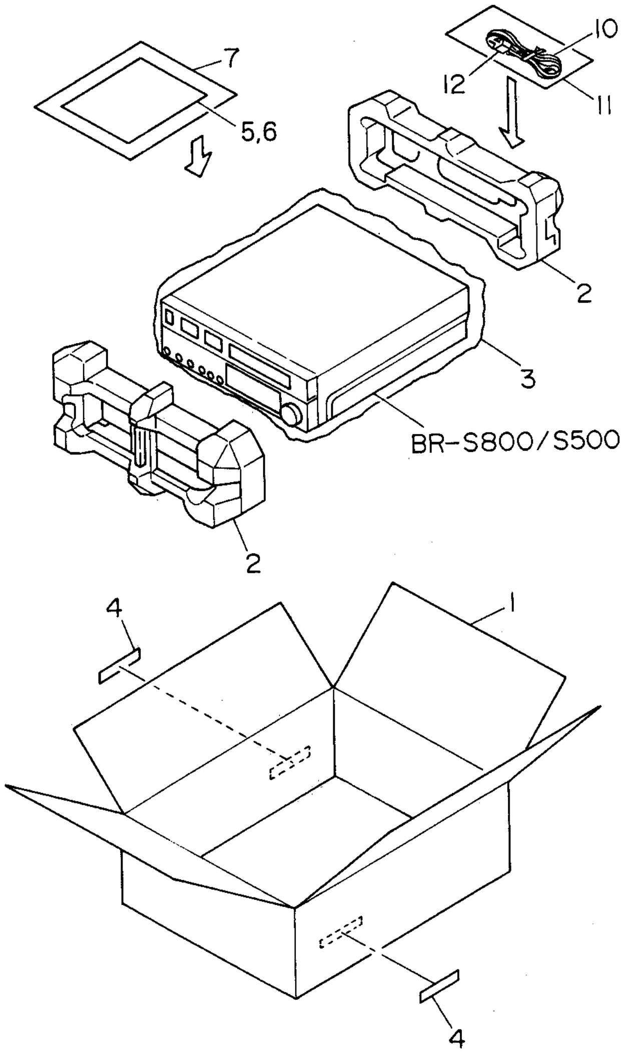
■ XRA7765AS 【ROHM】
(See BA7765AS.)

SECTION 5
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING assembly M1

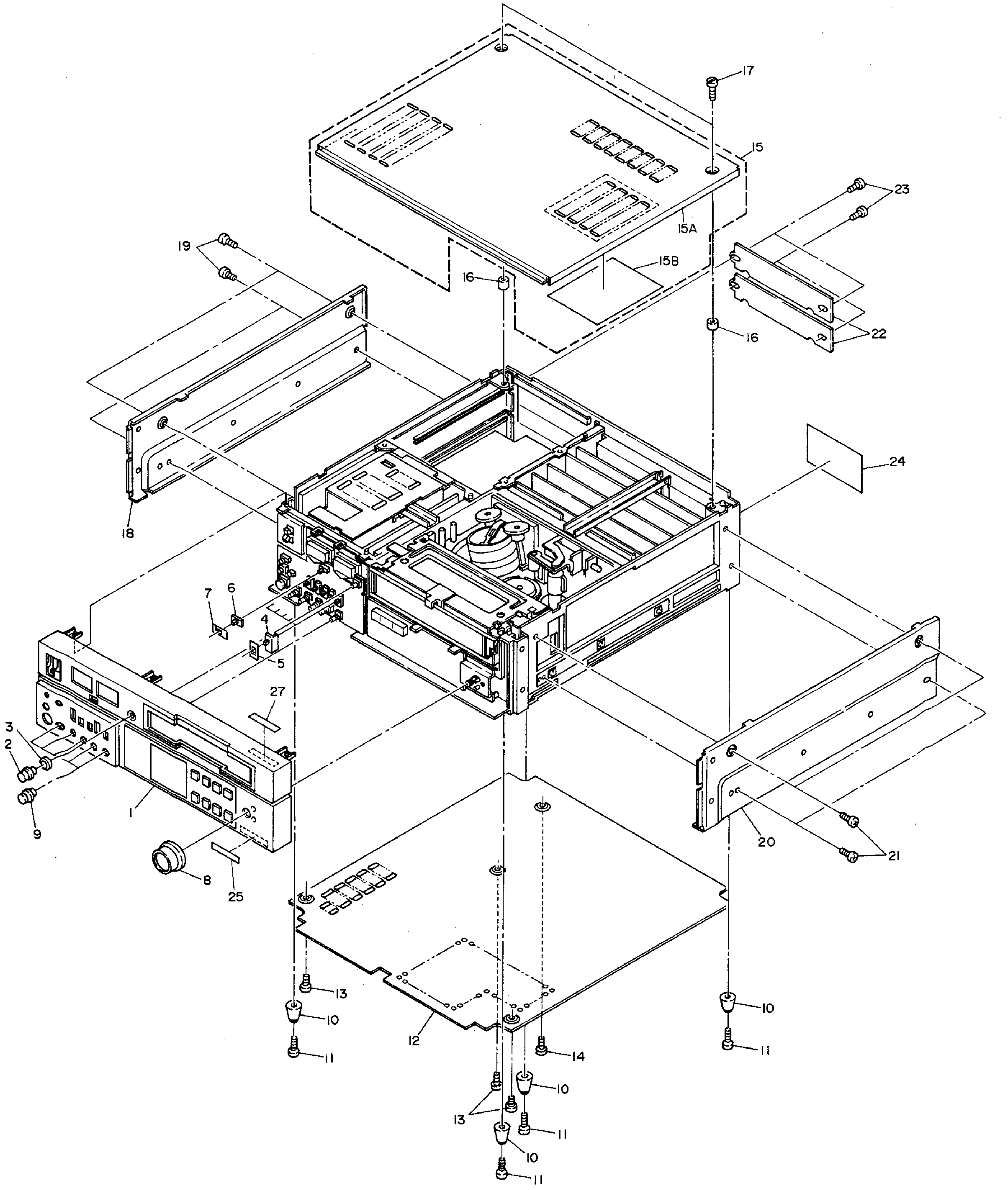


PACKING ASSEMBLY M1

M 1 M M □ □ □ □

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD20487-05-06	PACKING CASE, BR-S800E
1	PRD20487-06-06	PACKING CASE, BR-S500E
2	PRD10321A	CUSHION ASSY
3	PUM30021-24	POLY BAG
4	PUP40329	SERIAL NO.STICKER, ×2
5	SL96002	INSTRUCTIONS
6	SL96015	INSTRUCTIONS
7	QPGA025-03505	POLY BAG
⚠ 10	QMP4250-250	POWER CORD
11	QPGB020-02804	POLY BAG
12	PUP40003-7	AIR CAP

5.2 CABINET assembly M 2


17
15
15A
15B
23
22
19
16
16
24
18
7
6
4
5
27
3
2
9
1
8
25
20
21
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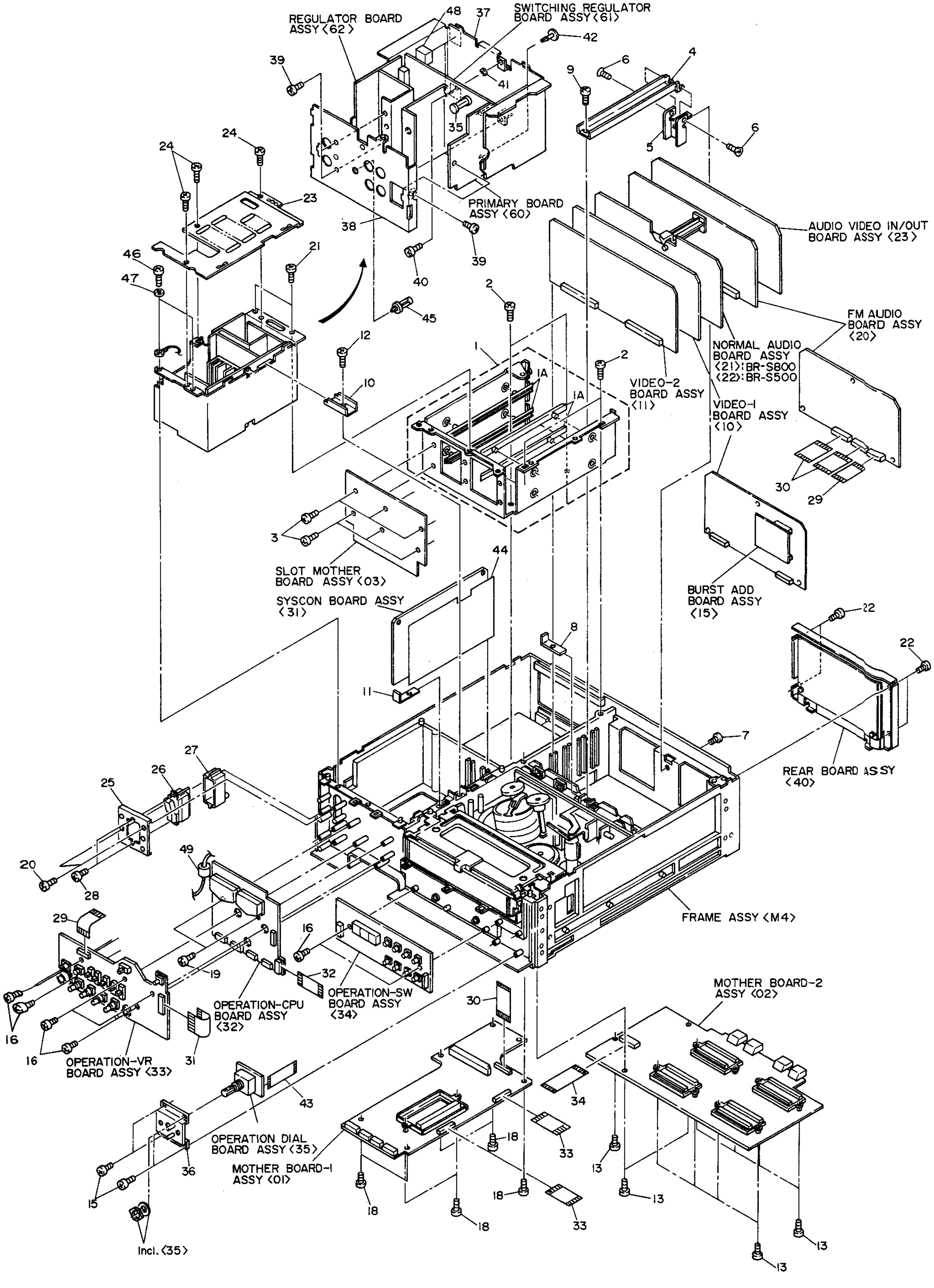
11

CABINET ASSEMBLY M2

M 2 M M ☐ ☐ ☐ ☐

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD10320E-08	FRONT PANEL ASSY, BR-S800E
1	PRD10320F-08	FRONT PANEL ASSY, BR-S500E
2	PRD30889-01-02	KNOB (VR)
3	PRD30029-08	WASHER
4	PRD42830	SLIDE KNOB, ×5 BR-S800E, ×4 BR-S500E
5	PRD43146	KNOB PLATE, ×5 BR-S800E, ×4 BR-S500E
6	PRD43835	KNOB (TRACKING)
7	PRD42909-04	KNOB PLATE
8	PGD40035A-1	SEARCH KNOB ASSY
9	PRD31027	KNOB (VR), ×5 BR-S800E, ×1 BR-S500E
10	QZF2319-001	FOOT, ×4
11	SDSF3020Z	SCREW, ×4
⚠ 12	PRD10313	BOTTOM COVER
13	SDSF3010Z	SCREW, ×3
14	SDSP3006Z	SCREW
15	PRD20498A-01	TOP COVER ASSY
⚠ 15A	PRD10310-01-02	TOP COVER
15B	PRD44308	SHADE
16	PGD40255	SPACER, ×2
17	PRD30088-03	COIN SCREW, ×2
⚠ 18	PRD10311-01-02	SIDE PANEL (LEFT)
19	SXST4008NW	SPECIAL SCREW, ×4
⚠ 20	PRD10312-01-02	SIDE PANEL (RIGHT)
21	SXST4008NW	SPECIAL SCREW, ×4
22	PRD31013	PANEL (SLOT), ×2
23	SDSP3014R	SCREW, ×4
⚠ 24	PRD30085-38-22	RATING LABEL, BR-S800E
⚠ 24	PRD30085-39-22	RATING LABEL, BR-S500E
25	PQ40111-1-5	SERIAL NO PLATE
27	PRD44337-02	INFORMATION LABEL

5.3 CHASSIS assembly M 3

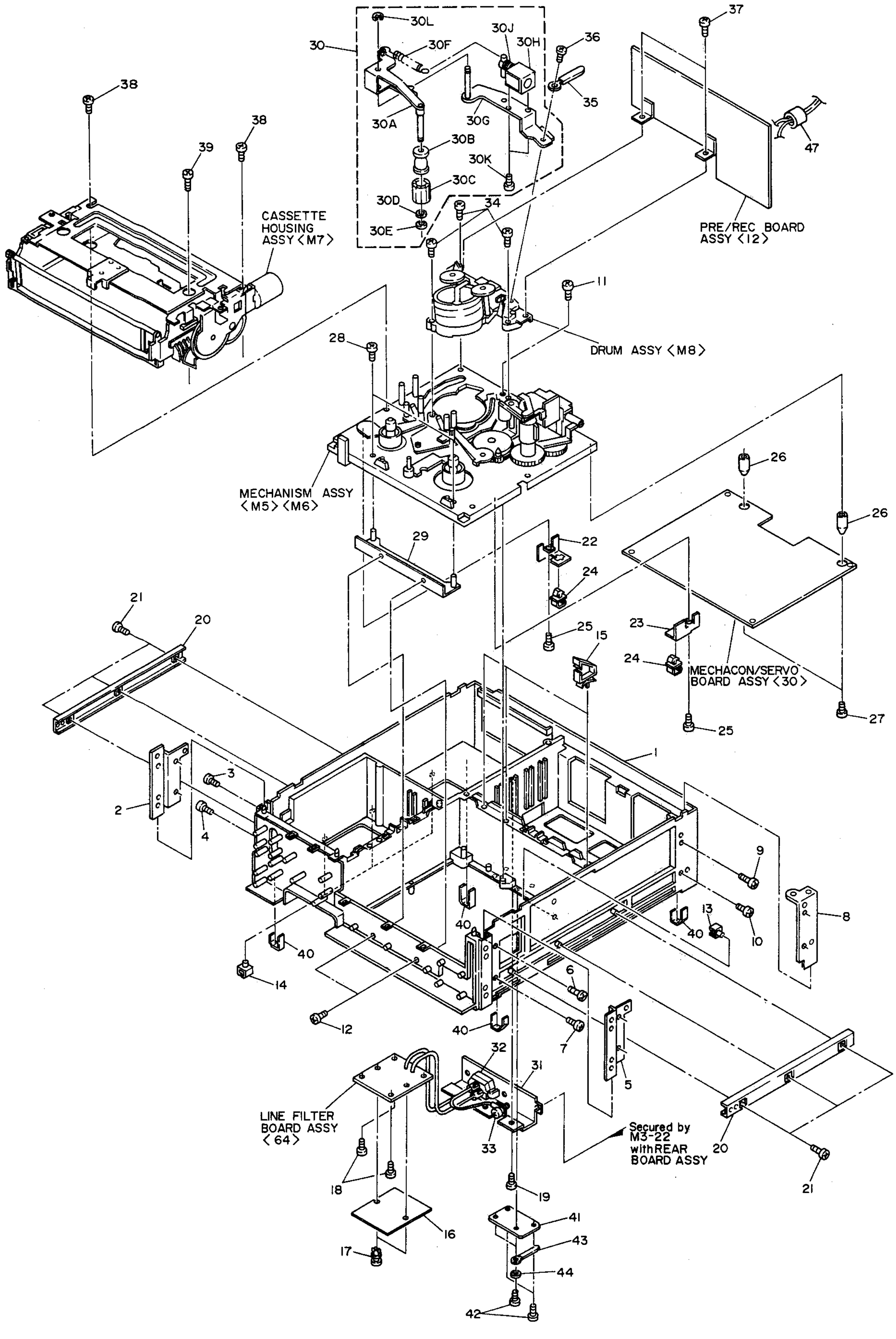

REGULATOR BOARD ASSY <62>
48
37
SWITCHING REGULATOR BOARD ASSY <61>
42
39
41
9
6
4
35
6
5
24
24
23
PRIMARY BOARD ASSY <60>
38
AUDIO VIDEO IN/OUT BOARD ASSY <23>
46
21
39
47
40
45
2
FM AUDIO BOARD ASSY <20>
12
NORMAL AUDIO BOARD ASSY <21>:BR-S800 <22>:BR-S500
1
2
1A
1A
10
VIDEO-2 BOARD ASSY <11>
VIDEO-1 BOARD ASSY <10>
30
29
3
44
SLOT MOTHER BOARD ASSY <03>
SYSCON BOARD ASSY <31>
BURST ADD BOARD ASSY <15>
22
8
22
11
7
REAR BOARD ASSY <40>
27
25
26
49
20
28
FRAME ASSY <M4>
29
16
32
19
OPERATION-CPU BOARD ASSY <32>
OPERATION-SW BOARD ASSY <34>
MOTHER BOARD-2 ASSY <02>
30
16
16
16
31
OPERATION-VR BOARD ASSY <33>
43
34
OPERATION DIAL BOARD ASSY <35>
18
33
36
MOTHER BOARD-1 ASSY <01>
13
15
18
18
13
18
33
13
13
Incl. <35>

CHASSIS ASSEMBLY M3

M 3 M M ☐☐☐☐

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD20491A-01	HOLDER ASSY
1A	PGZ00493-03	GUIDE RAIL, ×4
2	SDSF3010Z	SCREW, ×4
3	SDST3006Z	SCREW, ×6
4	PRD31022-01-02	HOLDER (A)
5	PRD44249	BRACKET (BOARD HOLDER)
6	YQ40689	SPECIAL SCREW, ×2
7	SDST2606Z	SCREW
8	PRD44250	LEVER
9	SDSP3010Z	SCREW
10	PRD44252	HOLDER (B)
11	PRD44250	LEVER
12	SDSP3010Z	SCREW
13	SDSF3010Z	SCREW, ×11
15	SDSF3010Z	SCREW, ×4
16	SDSF3010Z	SCREW, ×8
18	SDSF3010Z	SCREW, ×7
19	SDSF3010Z	SCREW, ×2
20	SDSF3010Z	SCREW, ×2
21	PRD44050-05	SCREW, ×2
22	SDSF3010R	SCREW, ×4
23	PRD31024	CASE2
24	PRD44050-05	SCREW, ×3
25	PRD44222	BRACKET (POWER SWITCH)
⚠ 26	QSE2A21-L01	POWER SWITCH
⚠ 27	PRD42023	SWITCH COVER
28	LPSP3006Z	ASSY SCREW, ×2
29	PGW0206-050180	FFC, ×2
30	PGW0206-050300	FFC, ×3
31	PGW0206-040180	FFC
32	PGW0206-050240	FFC
33	PGW0206-090180	FFC, ×2
34	PGW0206-140300	FFC
⚠ 35	QMF51E2-1R6	FUSE, (F001) T1.6A
36	PRD44221	BRACKET, (SEARCH)
37	PRD20489	CASE1
38	PRD31019-01-03	HEAT SINK
39	PRD44050-05	SCREW, ×3
40	PRD44050-05	SCREW, ×2
41	WBS3000N	WASHER
42	PU60010-3	SPACER, ×2
43	PGW0109-90AC556	FLAT WIRE
44	PRD44318	SHIELD PLATE, INCLUDED IN <31>
45	PGZ01128-02	SPACER
46	SDSF3016Z	SCREW, ×2
47	WLS3000N	LOCK WASHER, ×2
48	PRD30030-132	PAD, ×2
49	PGZ01229	FERRITE CORE
50	PRK10163A-03	SWITCHING REGULATOR ASSEMBLY

5.4 FRAME assembly $\boxed{M}\boxed{4}$



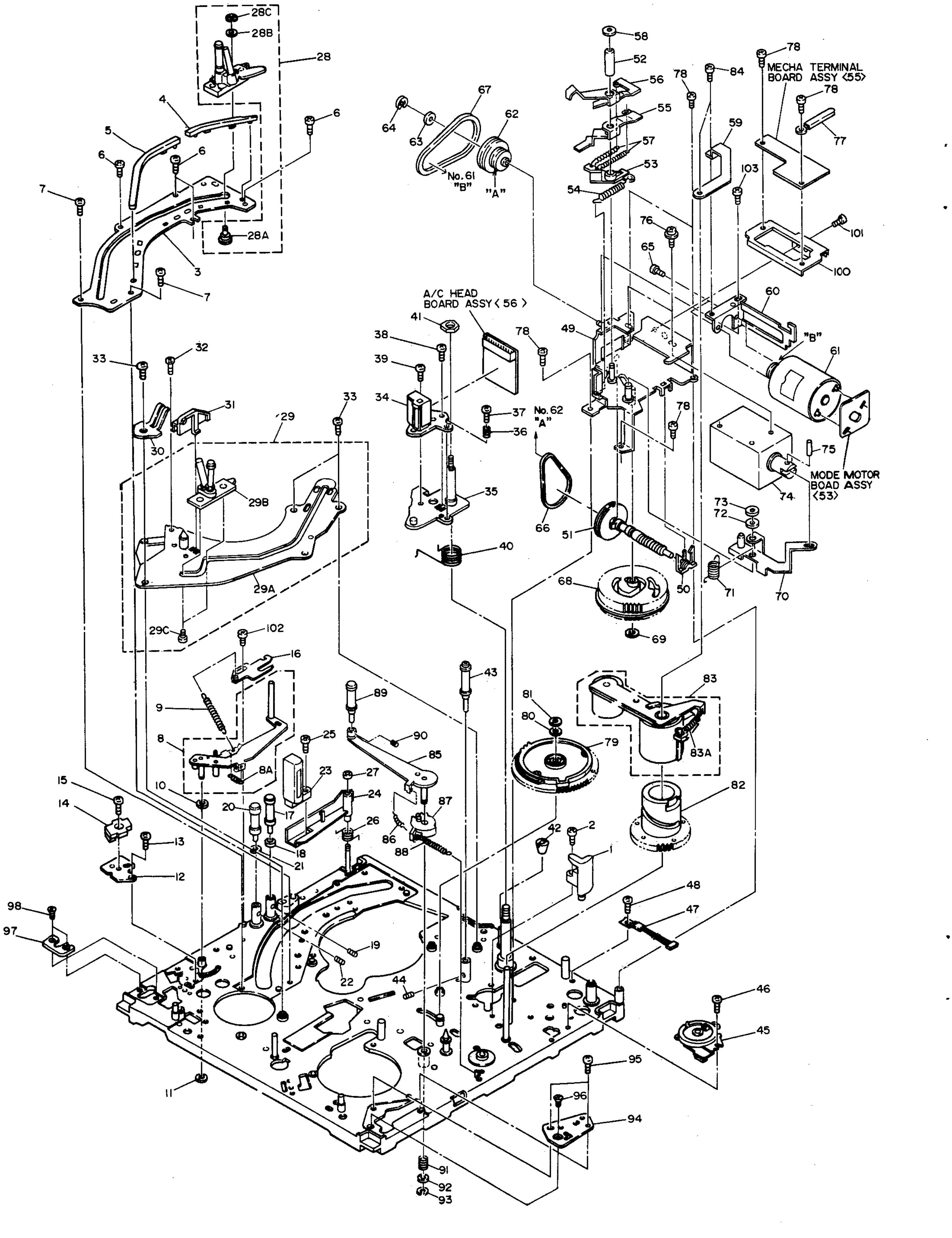
30L
30
30F
30J
30H
36
37
38
38
39
30A
30G
35
47
30B
30K
30C
30D
30E
34
CASSETTE HOUSING ASSY <M7>
PRE/REC BOARD ASSY <12>
11
DRUM ASSY <M8>
28
26
26
MECHANISM ASSY <M5> <M6>
29
22
24
21
20
25
15
23
24
MECHACON/SERVO BOARD ASSY <30>
25
27
1
3
2
4
9
8
13
40
10
40
40
14
6
12
40
7
32
31
5
LINE FILTER BOARD ASSY <64>
33
Secured by M3-22 with REAR BOARD ASSY
20
18
19
21
41
16
43
17
44
42

FRAME ASSEMBLY M4

M 4 M M ☐ ☐ ☐ ☐

⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	1	PRD10319-01-03	BOTTOM CHASSIS
	2	PRD31000	BRACKET (FRONT-LEFT)
	3	SSSP3006Z	SCREW
	4	SDSP3006Z	SCREW
	5	PRD31000-02	BRACKET (FRONT-RIGHT)
	6	SSSP3006Z	SCREW
	7	SDSP3006Z	SCREW
	8	PRD30999	BRACKET (REAR)
	9	SSSP3006Z	SCREW
	10	SDSP3006Z	SCREW
	11	SDSF4025Z	SCREW
	12	DPSP4010Z	SCREW, ×2
	13	PU48016-2	MINI CLAMP
	14	PU59311-3	WIRE CLAMP, ×3
	15	PGZ00452	L WIRE SADOLE, ×3
	16	PRD44271	INSULATOR
	17	PGZ01951	PLASTIC RIVET, ×2
	18	SDSF3010R	SCREW, ×2
	19	SDSP3006Z	SCREW
	20	PRD31016	BRACKET (RACK RAIL), ×2
	21	SDSF3010Z	SCREW, ×6
	22	PRD44274	HINGE L
	23	PRD44275	HINGE R
	24	PGZ00606-03	BOARD HOLDER, ×2
	25	SDST2605Z	SCREW, ×2
	26	PGZ01961	SNAP COLLAR, ×2
	27	SSSG2622Z	SCREW, ×2
	28	PRD30082-02	FLANGE SCREW, ×2
	29	PRD31017A	BRACKET ASSY
	30	PRD30797B	HEAD CLEANER ASSY
	30A	PRD43590B	CLEANER ARM SUB ASSY
	30B	PQ45689	ROLLER
	30C	PQ44837	CLEANER
	30D	Q03093-829	WASHER
	30E	PQM30017-25	SLIT WASHER
	30F	PRD30024-62	TENSION SPRING
	30G	PRD43591B	CLEANER BRACKET ASSY
⚠	30H	PGZ01973	SOLENOID
	30J	PRD30023-36	COMPRESSION SPRING
	30K	SPSP2003Z	SCREW, ×2
	30L	REE2500	"E" RING
	31	PRD31004-03	BRACKET (AC INLET)
⚠	32	PGZ01945	AC INLET
	33	LPSP4006Z	SCREW
	34	LPSP2612Z	SCREW, ×3
	35	PU49485-4	WIRE CLAMP
	36	DPSP2606Z	SCREW
	37	PRD44050-02	SCREW, ×2
	38	PRD30027-04	SPECIAL SCREW, ×2
	39	SDSP2608Z	SCREW
	40	PRD30030-128	PAD, ×4
	41	PRD44317	BRACKET
	42	SDSF3010Z	SCREW, ×4
	43	PU49485-4	WIRE CLAMP, ×2
	44	WLS3000N	LOCK WASHER, ×2
	47	PU58903	FERRITE CORE

5.5 MECHANISM-1 assembly M 5


28C
28B
28
58
52
78
84
MECHA TERMINAL
BOARD ASSY <55>
78
56
55
57
53
54
4
5
6
6
6
7
3
7
28A
67
62
64
63
No.61
"B"
"A"
59
77
103
101
100
76
65
A/C HEAD
BOARD ASSY < 56 >
41
38
39
78
49
60
"B"
61
33
32
31
30
33
29
29B
29A
29C
34
37
36
No.62
"A"
35
40
66
51
50
78
74
75
MODE MOTOR
BOAD ASSY
<53>
73
72
71
70
68
69
102
16
9
8
8A
10
43
89
90
85
25
23
27
24
20
17
18
21
26
86
87
88
81
80
79
83
83A
82
15
14
13
12
42
2
1
48
47
98
97
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95
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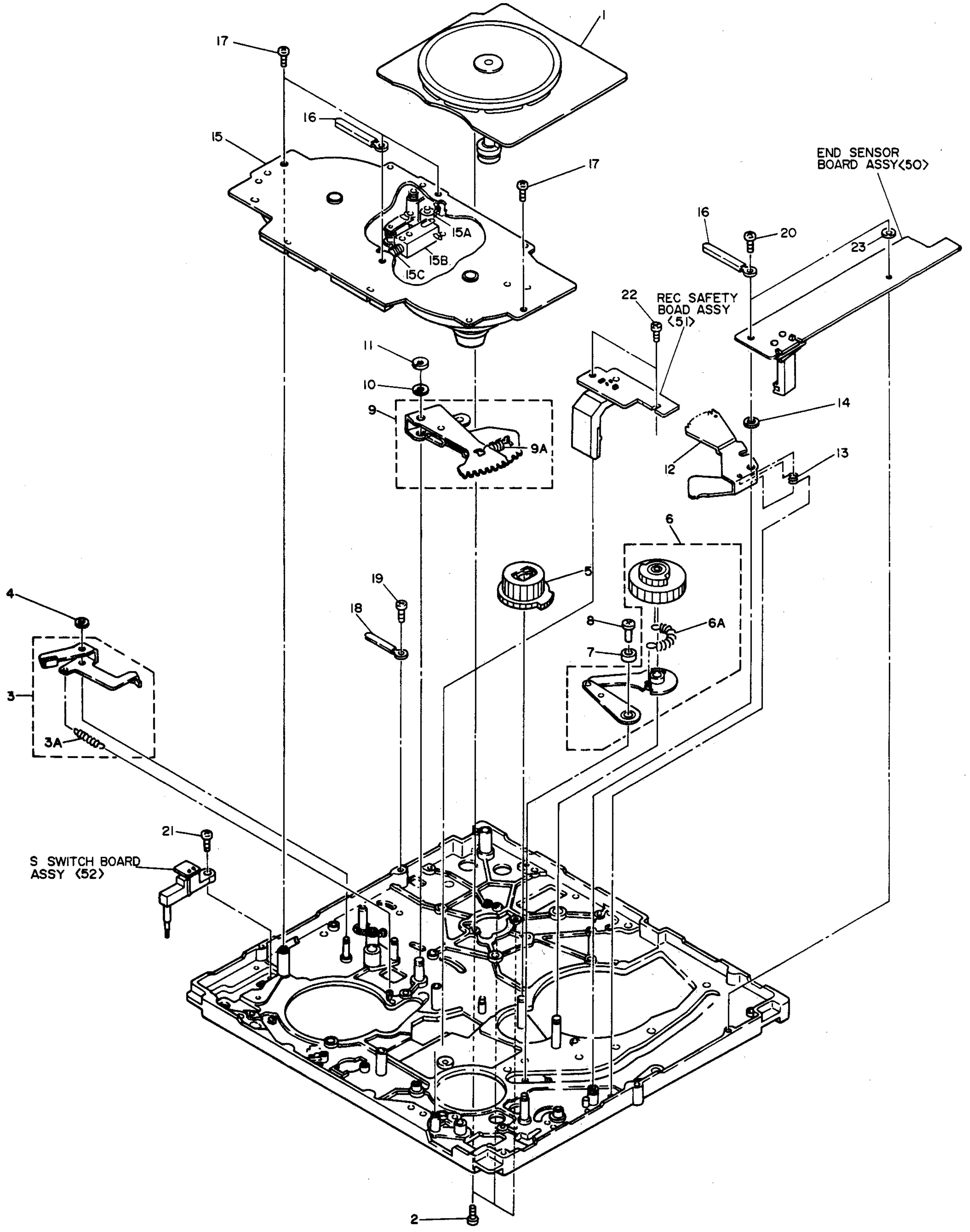
92
93

MECHANISM-1 ASSEMBLY M5

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD44121-01-01	ARM GUIDE
2	SDST2606Z	SCREW
3	PRD30806-01-02	SUB DECK (SUPPLY)
4	PQ33995	GUIDE RAIL-2 (SUPPLY)
5	PRD30808	GUIDE RAIL-1 (SUPPLY)
6	SDST2605M	SCREW, ×4
7	SDSP2603.5M	SCREW, ×2
8	PRD43638A-01	TENSION ARM ASSY
8A	PQM30001-345	TENSION SPRING
9	PRD43935	TENSION SPRING
10	Q03093-838	WASHER
11	PQM30017	SLIT WASHER
12	PRD43466-01-02	TENSION SENSOR BASE
13	SDSP2003Z	SCREW
14	PU61338	TENSION SENSOR
15	SDSP2604Z	SCREW
16	PRD43902A	SPRING ADJUST ASSY
17	PRD43721A	GUIDE ROLLER ASSY
18	PQ45294	“O” RING
19	YFS2603B	SPECIAL SCREW
20	PRD43721A	GUIDE ROLLER ASSY
21	PQ45294	“O” RING
22	PQ45295	SPECIAL SCREW
23	PGZ01841	FULL ERASE HEAD, BR-S800E
24	PRD30817	FE HEAD ARM, BR-S800E
25	SDSF2608M	SCREW, BR-S800E
26	PRD44149	TORSION SPRING, BR-S800E
27	PQM30017-6	SLIT WASHER, BR-S800E
28	PRD30809A	POLE BASE (SUPPLY) ASSY
28A	PRD43671-01-02	STOPPER (SUPPLY)
28B	Q03093-829	WASHER
28C	REE1500	“E” RING
29	PRD44032A-01	LOADING (TAKE-UP) ASSY
29A	PRD43627A	GUIDE RAIL (TAKE-UP) ASSY
29B	PRD30811A-02	POLE BASE (TAKE-UP) ASSY
29C	PRD43819-02	SPECIAL SCREW, ×2
30	PRD44276	EARTH PLATE
31	PRD44268	TAPE GUIDE
32	SDSP2603.5M	SCREW
33	SDST2605M	SCREW, ×3
34	PGZ01840	AUDIO/CONTROL HEAD
35	PRD44127A	HEAD ARM ASSY
36	PQM30002-197	COMPRESSION SPRING
37	SDSP2612Z	SCREW
38	PQ44621	SPECIAL SCREW
39	PQ43687B	SPECIAL SCREW
40	PQ44119	TORSION SPRING
41	PQ40353	NYLON NUT
42	PRD44241	TAPER NUT
43	PRD44151A-01	GUIDE ROLLER ASSY
44	PQ45295	SPECIAL SCREW
45	PU61339-1-1	ROTARY ENCORDER
46	SDSP2004Z	SCREW
47	PU61357	DEW SENSOR
48	SDSP2604Z	SCREW
49	PRD44105A	SOLENOID BRACKET ASSY
50	PQ44129	WORM BEARING-2

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
51	PRD44122A	WORM GEAR ASSY
52	PRD44108	COLLAR
53	PQ33992-1-1	LOCK LEVER 1
54	PQM30001-313	TENSION SPRING
55	PRD44107	LOCK LEVER 2
56	PRD30971-01-01	LOCK LEVER 3
57	PQM30001-314	TENSION SPRING, ×2
58	PQM30017-6	SLIT WASHER
59	PRD44103	ARM
60	PRD30969	MOTOR BRACKET
61	PRD44123A	MODE MOTOR ASSY
62	PRD43968	CONNECT PULLEY
63	Q03093-829	WASHER
64	REE1200	E RING
65	SPSP3003Z	SCREW, ×2
66	PRD30022-17	BELT
67	PRD30022-18	BELT
68	PQ21313-1-1	CAM GEAR
69	PQM30017-12	SLIT WASHER
70	PRD44106A	SOLENOID LEVER ASSY
71	PRD44113	TORSION SPRING
72	Q03093-818	WASHER
73	PQM30017-12	SLIT WASHER
⚠ 74	PGZ01845	SOLENOID
75	PSE3010	SPRING PIN
76	DPSP3005Z	SCREW, ×2
77	PU49485-4	WIRE CLAMP
78	SDST2605Z	SCREW, ×6
79	PQ21315-1-2	CONTROL CAM
80	Q03093-849	WASHER
81	PQM30017-28	SLIT WASHER
82	PQ21312	PINCH ROLLER CAM
83	PRD43387A-01	PINCH ROLLER ARM ASSY
83A	PRD30024-60	TENSION SPRING
84	SDST2606Z	SCREW, ×2
85	PRD43658A	GUIDE ARM SUB ASSY
86	PRD30023-54	COMPRESSION SPRING
87	PRD44039	GUIDE ARM GEAR
88	PRD30024-67	TENSION SPRING
89	PRD43660A-02	GUIDE ROLLER ASSY
90	YFS2003B	SET SCREW
91	PRD30023-55	COMPRESSION SPRING
92	WSS3000Z	WASHER
93	PQM30017-13	SLIT WASHER
94	PRD43889	SOCKET R
95	SDSP2605Z	SCREW, ×2
96	SSSP2606Z	SCREW
97	PRD43890	SOCKET L
98	SDSP2605Z	SCREW, ×2
100	PRD31029	DECK TERMINAL BOARD STAY
101	SDST2605Z	SCREW
103	SDSP2604Z	SCREW

5.6 MECHANISM-2 assembly M 6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15A
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BOARD ASSY<50>
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REC SAFETY
BOAD ASSY
<51>
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9A
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3A
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6A
21
S SWITCH BOARD
ASSY <52>
2

MECHANISM-2 ASSEMBLY M6

M 6 M M ☐ ☐ ☐ ☐

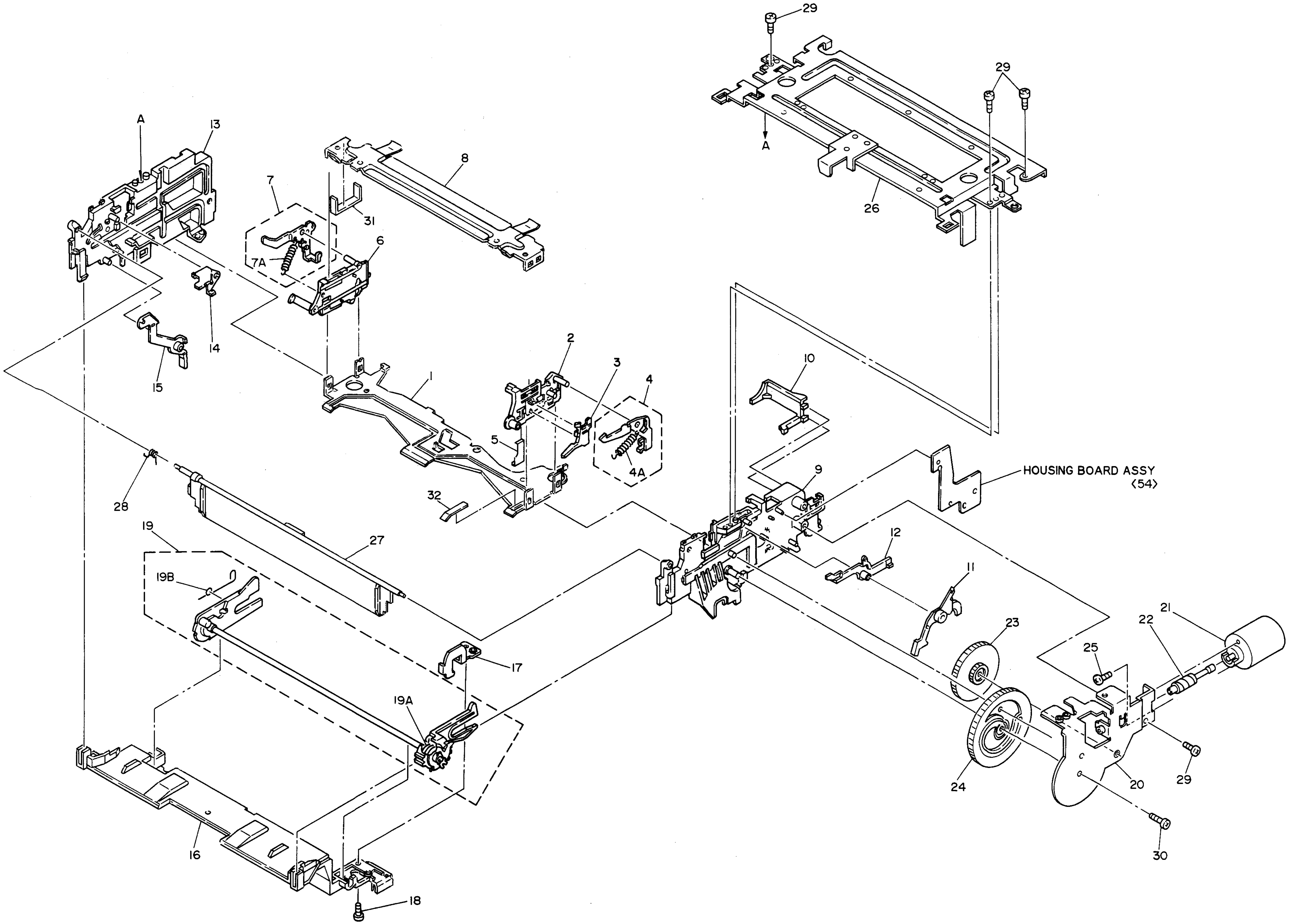
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
⚠ 1	PGZ01535-01-01	CAPSTAN MOTOR
2	SDSP2608Z	SCREW, ×3
3	PRD43479A-01	REEL BRAKE ASSY
3A	PRD30024-58	TENSION SPRING
4	PQM30017-6	SLIT WASHER
5	PQ34033	LOADING GEAR (TAKE UP)
6	PRD43923A	LOADING GEAR (SUPPLY) ASSY
6A	PQM30001-318	TENSION SPRING
7	PRD44019	COLLAR
8	PRD44287	SPECIAL SCREW
9	PQ45306B-3	ARM GEAR ASS'Y
9A	PQM30001-320	TENSION SPRING
10	Q03093-833	WASHER
11	REE3000	"E"RING
12	PQ34007	CANCEL LEVER
13	PQ45313	TORSION SPRING
14	PQM30017-12	SLIT WASHER
⚠ 15	PGZ01958A	REEL MOTOR
15A	PGZ01958-001	LED HOLDER ASSY
15B	PGZ01958-002	SOLENOID
15C	PGZ01958-003	COMPRESSION SPRING
16	PU49485-4	WIRE CLAMP, ×3
17	SDST2605Z	SCREW, ×4
18	PU49485-4	WIRE CLAMP
19	SDST2605Z	SCREW
20	DPSP2606Z	SCREW, ×2
21	SDST2605Z	SCREW
22	SDST2605Z	SCREW
23	Q03093-826	WASHER

CASSETTE HOUSING ASSEMBLY M7

M 7 M M ☐ ☐ ☐ ☐

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	PGS21023A-01	CASSETTE HOUSING ASSY, INCLUDED 1 TO 32
1	PRD20464	CASSETTE HOLDER
2	PQ11278-01-01	SIDE HOLDER (RIGHT)
3	PQ45459	LID OPENER
4	PQ43596A-5	LOCK LEVER (RIGHT) ASSY
4A	PQ43597-1-5	TENSION SPRING
5	PRD44285	EARTH PLATE
6	PQ11279	SIDE HOLDER (LEFT)
7	PQ45539A-01	LOCK LEVER (LEFT) ASSY
7A	PQ43597-2	TENSION SPRING
8	PRD30982A	HOLDER STAY ASSY
9	PQ11281-01-06	HOUSING STAY (RIGHT)
10	PQ34097	LID GUIDE
11	PQ34098	SENSOR LEVER
12	PRD30946	INSERT SW.LEVER
13	PQ11282-01-07	HOUSING STAY (LEFT)
14	PQ45479-01-02	DOOR STOPPER
15	PQ34100	DOOR OPENER
16	PRD10301-01-02	FRONT BRACKET
17	PRD43729	BASE BRACKET
18	SSSP2606Z	SCREW
19	PQ34103A-04	MAIN ARM ASSY
19A	PRD43806	TORSION SPRING
19B	PQ43605	TORSION SPRING
20	PRD30983A	MOTOR BRACKET ASSY
⚠ 21	PQ45489A	MOTOR ASSY
22	PQ45474	WORM GEAR
23	PQ34109-01-01	CONNECT GEAR
24	PQ34110-01-01	IDLER CAM
25	SPSP3003Z	SCREW, ×2
26	PRD30981A	TOP FRAME ASSY
27	PRD30962	CASSETTE HOUSING DOOR
28	PRD44088	TORSION SPRING
29	SDSF2608Z	SCREW, ×4
30	SDSF2612Z	SCREW
31	PRD44319	TEPHRON SHEET
32	PRD30030-130	PAD

5.7 CASSETTE HOUSING assembly M 7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HOUSING BOARD ASSY
<54>
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19B
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19A
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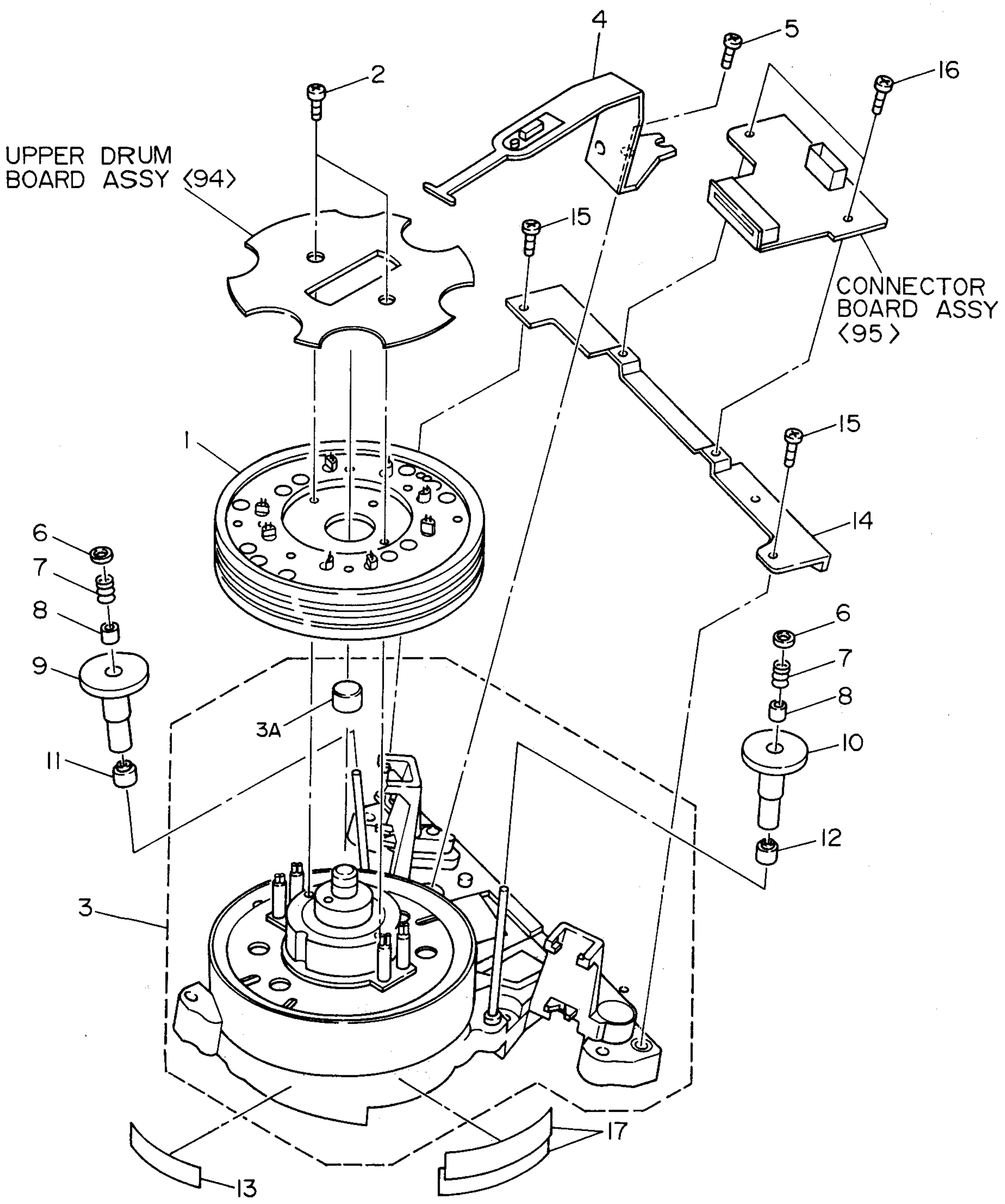
5.8 DRUM assembly M 8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UPPER DRUM BOARD ASSY ⟨94⟩
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CONNECTOR BOARD ASSY ⟨95⟩
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DRUM ASSEMBLY M 8

M 8 M M □ □ □ □

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	LDR2003A	DRUM ASSY, BR-S800E (INCLUDED 1 TO 17)
	LDR2004A	DRUM ASSY, BR-S500E (INCLUDED 1 TO 17)
1	PRD20458B	UPPER DRUM ASSY, BR-S800E
1	PRD20485B	UPPER DRUM ASSY, BR-S500E
2	PDM4165A	DRUM SCREW ASSY, ×2
3	PRD20460B-01	LOWER DRUM MOTOR ASSY
3A	PQ41596D	COMMUTATOR
4	PRD44288A	BRUSH ASSY
5	SDSG2606Z	SCREW
6	PQM30017-25	SLIT WASHER, ×2
7	PRD30023-42	COMPRESSION SPRING, ×2
8	PRD30026-49	COLLAR, ×2
9	PGZ01920	INERTIA ROLLER ASSY (SUPPLY)
10	PGZ01920-02	INERTIA ROLLER ASSY (TAKE-UP)
11	PRD30026-50	COLLAR
12	PRD30026-51	COLLAR
13	PDM4067	PART NO. LABEL
14	PRD31025	BOARD BRACKET
15	SDSG2606Z	SCREW, ×2
16	SDSG2606Z	SCREW, ×2
17	PRD43750	LABEL, ×2

SECTION 6
ELECTRICAL PARTS LIST

Note:

- Parts identified by the ⚠ symbol are critical for safety. Replace only with parts having the specified part numbers.
- The parts list in this section applies to both the BR-S800E and the BR-S500E unless the applicable model is specified in the Remark column or the head of respective lists. In that event the part or the P.C. board assembly is for exclusive use of the specified model.

Example 1 :

R147 QRSA08J-332YN resistor, **BR-S800E** 3.3 kΩ, 1/10W 100

In this case, the resistor (R147) is used in the **BR-S800E** onle.

Example 2 :

— AUDIO-6 BOARD ASSY, **BR-S800E** —

PWBA PRK30066A1 AUDIO-6 Board Ass'y

In the above case, the AUDIO-6 Board Ass'y is the circuit board assembly that is exclusively used for the **BR-S800E**.

Parts without any remark are used in both the models in common.

MOTHER-1 BOARD ASSEMBLY <01>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK10166A-02	MOTHER-1 BOARD ASSY
K1	PGZ00354	FERRATE BEADS, × 9
BKT1	PRD31002	BRACKET, (FOR 64PIN-DIN)
CL1	PU59311-3	WIRE CLAMP, × 2
SCW1	GBST3006Z	SCREW, × 2
SCW2	SDST2606Z	SCREW, × 2
SPC1	PGZ01031-03	P C SUPPORT
TP1	PGZ01377	STYLE PIN, × 4
CN1	PGZ01940-64	BOARD CONNECTOR
CN2	PGZ01940-64	BOARD CONNECTOR
CN3	PGZ01941-10	BOARD CONNECTOR
CN4	PGZ01941-10	BOARD CONNECTOR
CN5	PGZ01941-10	BOARD CONNECTOR
CN6	PGZ01941-10	BOARD CONNECTOR
CN7	PU60711-118	CONNECTOR
CN8	PU60711-118	CONNECTOR
CN9	PU59973-30	CONNECTOR
CN10	PU59973-30	CONNECTOR
CN11	PU59555-111	CONNECTOR
CN12	PU59555-110	CONNECTOR
CN13	PU59555-109	CONNECTOR
CN14	PU59555-106	CONNECTOR
CN15	PU59555-105	CONNECTOR
CN16	PU59555-107	CONNECTOR

MOTHER-2 BOARD ASSEMBLY <02>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK10164A-01	MOTHER-2 BOARD ASSY
BKT1	PRD44292	BRACKET, × 4(FOR 44PIN-DIN)
SCW1	GBST3006Z	SCREW, × 8
SCW2	SDST2606Z	SCREW, × 14
SPC1	PGZ01031-03	P C SUPPORT, × 3
TP1	PGZ01377	STYLE PIN, × 2
CL1	PU59311-3	WIRE CLAMP, × 3
CN1	PGZ01940-44	DIN CONNECTOR
CN2	PGZ01940-44	DIN CONNECTOR
CN3	PGZ01940-44	DIN CONNECTOR
CN4	PGZ01940-44	DIN CONNECTOR
CN5	PGZ01940-44	DIN CONNECTOR
CN6	PGZ01940-44	DIN CONNECTOR
CN7	PGZ01940-44	DIN CONNECTOR
CN8	PGZ01941-10	BOARD CONNECTOR
CN9	PGZ01941-10	BOARD CONNECTOR
CN10	PGZ01941-10	BOARD CONNECTOR
CN11	PGZ01941-10	BOARD CONNECTOR
CN12	PU60711-130	CONNECTOR
CN13	PU59973-30	CONNECTOR
CN14	PU59555-111	CONNECTOR
CN15	PU59555-109	CONNECTOR
CN16	PU59555-103	CONNECTOR

SLOT MOTHER BOARD ASSEMBLY <03>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20275A	SLOT MOTHER BOARD ASSY
SW1	QSS1K31-L01	DIP SW, × 2(SW1-1,SW1-2)
SW2	QSS1K31-L01	DIP SW, × 2(SW2-1,SW2-2)
SW3	PU54440	SWITCH
CN1	PGZ01937-64	MALE CONNECTOR
CN2	PGZ01940-32	FEMALE CONNECTOR
CN3	PGZ01940-20	FEMALE CONNECTOR
CN4	PGZ01940-32	FEMALE CONNECTOR
CN5	PGZ01940-20	FEMALE CONNECTOR

VIDEO-1 BOARD ASSEMBLY <10>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20262A-02	VIDEO1 BOARD ASSY, BR-S800
PWBA	PRK20262B-02	VIDEO1 BOARD ASSY, BR-S500
IC1	AN3916	IC, BR-S800E
IC2	CXD2024Q	F IC(DRY)
IC3	NJM2285M	IC
IC4	MM1117XF	IC
IC5	MM1111XF	IC
IC6	M52062AFP	IC
IC7	CXD2024Q	F IC(DRY)
IC8	AN3497SB	F IC
IC9	CXL5505M	F IC(DRY)

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC10	CXL5506M	F IC(DRY)
IC11	M52350GP	IC
IC12	TC7W04F	IC
IC13	TC7W04F	IC
IC14	TC7S08F	IC
IC15	UPC78L05T	IC
IC16	UPC78L05T	IC
IC17	UPC78L05T	IC
Q1	2SC2412K(RS)	TRANSISTOR, BR-S800
Q2	2SC2412K(RS)	TRANSISTORM, BR-S800
Q3	2SC2412K(RS)	TRANSISTOR, BR-S800
Q4	2SC2412K(RS)	TRANSISTOR
Q5	2SA1037K(QR)	TRANSISTOR
Q6	2SC2412K(RS)	TRANSISTOR
Q7	2SK621	FE TRANSISTOR
Q8	2SK621	FE TRANSISTOR
Q9	2SC2412K(RS)	TRANSISTOR, BR-S800
Q10	2SA1037K(QR)	TRANSISTOR, BR-S800
Q11	2SC2412K(RS)	TRANSISTOR, BR-S800
Q12	2SC2412K(RS)	TRANSISTOR, BR-S800
Q13	2SC2412K(RS)	TRANSISTOR, BR-S800
Q14	2SA1037K(QR)	TRANSISTOR, BR-S800
Q15	2SC2412K(RS)	TRANSISTOR, BR-S800
Q16	2SC2412K(RS)	TRANSISTOR
Q17	2SC2412K(RS)	TRANSISTOR
Q18	2SA1037K(QR)	TRANSISTOR
Q19	2SC2412K(RS)	TRANSISTOR, BR-S800
Q20	2SC2412K(RS)	TRANSISTOR
Q21	2SC2412K(RS)	TRANSISTOR
Q22	2SC2412K(RS)	TRANSISTOR
Q23	2SA1037K(QR)	TRANSISTOR
Q24	2SC2412K(RS)	TRANSISTOR, BR-S800
Q25	2SC2412K(RS)	TRANSISTOR
Q26	2SA1037K(QR)	TRANSISTOR, BR-S800
Q27	2SC2412K(RS)	TRANSISTOR, BR-S800
Q29	2SA1037K(QR)	TRANSISTOR
Q30	DTC144EK	TRANSISTOR
Q31	2SC2412K(RS)	TRANSISTOR
Q32	2SC2412K(RS)	TRANSISTOR
Q33	2SA1037K(QR)	TRANSISTOR
Q34	2SC2412K(RS)	TRANSISTOR
Q35	2SC2412K(RS)	TRANSISTOR
Q36	2SC2412K(RS)	TRANSISTOR
Q37	2SC2412K(RS)	TRANSISTOR
Q38	2SC2412K(RS)	TRANSISTOR
Q39	2SC2412K(RS)	TRANSISTOR
Q40	2SA1037K(QR)	TRANSISTOR
Q41	2SC2412K(RS)	TRANSISTOR
Q42	2SC2412K(QR)	TRANSISTOR
Q43	2SC2412K(QR)	TRANSISTOR
Q44	2SC2412K(QR)	TRANSISTOR
Q45	2SA1037K(QR)	TRANSISTOR
Q46	2SC2412K(RS)	TRANSISTOR
Q47	2SC2412K(RS)	TRANSISTOR
Q48	2SC2412K(RS)	TRANSISTOR
Q49	2SC2412K(RS)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
Q50	2SC2412K(RS)	TRANSISTOR
Q52	2SC2412K(RS)	TRANSISTOR
Q53	2SC2412K(RS)	TRANSISTOR, BR-S800
Q54	2SC2412K(RS)	TRANSISTOR, BR-S800
Q55	2SC2412K(RS)	TRANSISTOR
Q58	2SC2412K(RS)	TRANSISTOR
Q59	2SC2412K(RS)	TRANSISTOR
Q60	DTC144EK	TRANSISTOR
Q61	2SA1037K(QR)	TRANSISTOR
Q62	DTC144EK	TRANSISTOR
Q63	DTC144EK	TRANSISTOR, BR-S800
Q64	DTC144EK	TRANSISTOR, BR-S800
Q65	2SC2412K(RS)	TRANSISTOR
Q67	2SC2412K(RS)	TRANSISTOR
Q68	2SC2412K(RS)	TRANSISTOR
Q69	2SC2412K(RS)	TRANSISTOR
Q70	2SC2412K(RS)	TRANSISTOR
Q71	2SC2412K(RS)	TRANSISTOR
Q72	2SA1037K(QR)	TRANSISTOR
Q73	2SC2412K(RS)	TRANSISTOR
Q74	2SC2412K(RS)	TRANSISTOR
Q75	2SC2412K(RS)	TRANSISTOR
Q76	2SC2412K(RS)	TRANSISTOR
Q77	2SC2412K(RS)	TRANSISTOR
Q78	2SC2412K(RS)	TRANSISTOR
Q79	2SC2412K(RS)	TRANSISTOR
Q80	2SC2412K(QR)	TRANSISTOR
Q81	2SA1037K(QR)	TRANSISTOR
Q82	2SA1037K(QR)	TRANSISTOR
Q83	2SC2412K(RS)	TRANSISTOR
Q84	2SC2412K(RS)	TRANSISTOR
Q86	DTC144EK	TRANSISTOR
Q87	2SC2412K(RS)	TRANSISTOR
Q88	2SC2412K(RS)	TRANSISTOR
Q89	2SC2412K(RS)	TRANSISTOR
Q90	2SC2412K(RS)	TRANSISTOR
Q91	2SC2412K(RS)	TRANSISTOR
Q92	2SC2412K(RS)	TRANSISTOR
Q93	2SC2412K(RS)	TRANSISTOR
Q94	2SC2412K(RS)	TRANSISTOR
Q95	DTC144EK	TRANSISTOR
Q96	2SC2412K(RS)	TRANSISTOR
Q97	DTC144EK	TRANSISTOR
Q98	2SC2412K(RS)	TRANSISTOR
Q99	2SC2412K(RS)	TRANSISTOR
D1	DAN202K	DIODE
D2	DAP202K	DIODE
D3	DAN202K	DIODE
D4	DAN202K	DIODE
D5	DAN202K	DIODE
D6	DAN202K	DIODE
D7	DAN202K	DIODE
D8	DAN202K	DIODE
R1	NVP1416-502N	V RESISTOR, BR-S800 5kΩ,1／4W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R2	NVP1416-201N	V RESISTOR, BR-S800	200Ω,1/4W
R3	NVP1416-201N	V RESISTOR, BR-S800	200Ω,1/4W
R4	NVP1415-503N	V RESISTOR, BR-S800	50kΩ,1/4W
R5	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R6	NVP1416-202N	V RESISTOR	2kΩ,1/4W
R7	NVP1416-202N	V RESISTOR	2kΩ,1/4W
R8	NVP1416-503N	V RESISTOR	50kΩ,1/4W
R9	NVP1416-103N	V RESISTOR	10kΩ,1/4W
R10	NVP1416-103N	V RESISTOR	10kΩ,1/4W
R11	NVP1416-103N	V RESISTOR	10kΩ,1/4W
R12	NVP1416-103N	V RESISTOR	10kΩ,1/4W
R13	NVP1416-102N	V RESISTOR	1kΩ,1/4W
R101	QRSA08J-750YN	RESISTOR, BR-S800	75Ω,1/10W
R102	QRSA08J-750YN	RESISTOR, BR-S800	75Ω,1/10W
R103	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1/10W
R104	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1/10W
R105	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
R106	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1/10W
R107	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1/10W
R108	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
R109	QRSA08J-122YN	RESISTOR, BR-S800	1.2kΩ,1/10W
R110	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W
R111	QRSA08J-0R0Y	RESISTOR, BR-S800	0Ω,1/10W
R112	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R113	QRSA08J-183YN	RESISTOR, BR-S800	18kΩ,1/10W
R114	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1/10W
R115	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R116	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R117	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R118	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R119	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R120	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R121	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R122	QRSA08J-750YN	RESISTOR, BR-S800	75Ω,1/10W
R123	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R124	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R125	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1/10W
R126	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R127	QRSA08J-681YN	RESISTOR, BR-S800	680Ω,1/10W
R128	QRSA08J-222YN	RESISTOR, BR-S800	2.2kΩ,1/10W
R129	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R130	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1/10W
R131	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R132	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R133	NRVA62D-751N	RESISTOR, BR-S800	750Ω,1/16W
R134	NRVA62D-102N	RESISTOR, BR-S800	1kΩ,1/16W
R135	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R136	QRSA08J-391YN	RESISTOR, BR-S800	390Ω,1/10W
R137	NRVA62D-152N	RESISTOR, BR-S800	1.5kΩ,1/16W
R138	QRSA08J-391YN	RESISTOR, BR-S800	390Ω,1/10W
R139	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1/10W
R140	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R141	QRSA08J-222YN	RESISTOR, BR-S800	2.2kΩ,1/10W
R142	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R143	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R145	QRSA08J-101YN	RESISTOR, BR-S800	100Ω,1/10W
R146	QRSA08J-122YN	RESISTOR, BR-S800	1.2kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R147	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R148	QRSA08J-101YN	RESISTOR, BR-S800	100Ω,1/10W
R149	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R150	QRSA08J-681YN	RESISTOR, BR-S800	680Ω,1/10W
R151	QRSA08J-331YN	RESISTOR, BR-S800	330Ω,1/10W
R152	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R153	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R154	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R155	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R156	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R157	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R158	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R159	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R160	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R161	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R162	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R163	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R164	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R165	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R166	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R167	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R168	NRVA62D-681N	RESISTOR	680Ω,1/16W
R170	QRSA08J-0R0Y	RESISTOR, BR-S800	0Ω,1/10W
R171	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
R172	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R173	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R174	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R175	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R176	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R177	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R178	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R179	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R180	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R181	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R182	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R183	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R184	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R185	NRVA62D-751N	RESISTOR, BR-S800	750Ω,1/16W
R186	NRVA62D-681N	RESISTOR, BR-S800	680Ω,1/16W
R187	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R188	QRSA08J-681YN	RESISTOR, BR-S800	680Ω,1/10W
R189	QRSA08J-471YN	RESISTOR, BR-S800	470Ω,1/10W
R190	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R191	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R192	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R193	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R194	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R195	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R198	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R199	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R200	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R201	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R202	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R203	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R204	QRSA08J-105YN	RESISTOR, BR-S800	1MΩ,1/10W
R205	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R206	QRSA08J-181YN	RESISTOR	180Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R207	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R208	QRSA08J-393YN	RESISTOR	39kΩ,1／10W
R209	QRSA08J-393YN	RESISTOR	39kΩ,1／10W
R210	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R211	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R212	NRVA62D-102N	RESISTOR	1kΩ,1／16W
R213	NRVA62D-222N	RESISTOR	2.2kΩ,1／16W
R214	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R215	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R216	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R217	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R218	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R219	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R220	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R221	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R222	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R223	NRVA62D-123N	RESISTOR	12kΩ,1／16W
R224	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R225	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R226	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R227	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R228	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R229	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R230	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R231	QRSA08J-750YN	RESISTOR	75Ω,1／10W
R232	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R233	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R234	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R235	QRSA08J-393YN	RESISTOR	39kΩ,1／10W
R236	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R237	NRVA62D-391N	CMF RESISTOR	390Ω,1／16W
R238	NRVA62D-391N	CMF RESISTOR	390Ω,1／16W
R239	NRVA62D-471N	RESISTOR	470Ω,1／16W
R240	NRVA62D-122N	RESISTOR	1.2kΩ,1／16W
R241	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R242	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R243	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R244	QRSA08J-750YN	RESISTOR	75Ω,1／10W
R245	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R246	QRSA08J-561YN	RESISTOR	560Ω,1／10W
R247	NRVA62D-102N	RESISTOR	1kΩ,1／16W
R248	NRVA62D-471N	RESISTOR	470Ω,1／16W
R249	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R250	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R251	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R252	NRVA62D-561N	RESISTOR	560Ω,1／16W
R253	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R254	NRVA62D-272N	RESISTOR	2.7kΩ,1／16W
R255	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R256	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R257	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R258	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R259	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R260	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R261	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R262	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R263	NRVA62D-123N	RESISTOR	12kΩ,1／16W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R264	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R265	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R266	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R267	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R268	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R269	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R270	QRSA08J-182YN	RESISTOR	1.8kΩ,1／10W
R271	QRSA08J-750YN	RESISTOR	75Ω,1／10W
R272	QRSA08J-471YN	RESISTOR	470Ω,1／10W
R273	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R274	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R276	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R277	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R278	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R279	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R280	QRSA08J-151YN	RESISTOR	150Ω,1／10W
R281	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1／10W
R282	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1／10W
R283	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1／10W
R284	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1／10W
R285	QRSA08J-391YN	RESISTOR, BR-S800	390Ω,1／10W
R286	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1／10W
R287	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R288	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R289	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R290	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R291	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R292	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R293	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R294	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R295	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R296	QRSA08J-821YN	RESISTOR	820Ω,1／10W
R302	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R303	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R304	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R305	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R306	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R307	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R308	QRSA08J-560YN	RESISTOR, BR-S800	56Ω,1／10W
R309	QRSA08J-560YN	RESISTOR, BR-S800	56Ω,1／10W
R310	QRSA08J-222YN	RESISTOR, BR-S800	2.2kΩ,1／10W
R311	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R312	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R313	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R314	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R315	QRSA08J-182YN	RESISTOR	1.8kΩ,1／10W
R316	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R317	QRSA08J-271YN	RESISTOR	270Ω,1／10W
R318	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R319	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R320	QRSA08J-822YN	RESISTOR	8.2kΩ,1／10W
R321	QRSA08J-104YN	RESISTOR	100kΩ,1／10W
R322	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R325	QRSA08J-393YN	RESISTOR, BR-S800	39kΩ,1／10W
R325	QRSA08J-473YN	RESISTOR, BR-S500	47kΩ,1／10W
R326	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R327	QRSA08J-223YN	RESISTOR	22kΩ,1／10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R328	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R329	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R330	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R331	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R332	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R333	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R334	NRVA62D-681N	RESISTOR	680Ω,1/16W
R335	NRVA62D-271N	RESISTOR	270Ω,1/16W
R336	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R337	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R338	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R339	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R340	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R341	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R342	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R343	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R344	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R345	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R346	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R347	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R348	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R349	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R350	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R351	QRSA08J-201YN	RESISTOR	200Ω,1/10W
R352	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R353	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R354	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R355	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R357	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R358	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R359	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R360	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R361	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R362	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R363	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R364	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R365	NRVA62D-751N	RESISTOR	750Ω,1/16W
R366	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R367	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R368	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R369	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R370	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R371	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R372	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R373	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R374	NRVA62D-561N	RESISTOR	560Ω,1/16W
R375	NRVA62D-391N	CMF RESISTOR	390Ω,1/16W
R376	NRVA62D-471N	RESISTOR	470Ω,1/16W
R377	NRVA62D-471N	RESISTOR	470Ω,1/16W
R378	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R379	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R380	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R381	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R384	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R385	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R387	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R388	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R389	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R390	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R391	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R392	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R393	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R394	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R395	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R396	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R397	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R398	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R399	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R400	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R401	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R402	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R403	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R404	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R405	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R406	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R407	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R408	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R409	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R410	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R411	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R413	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R414	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R416	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R417	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R418	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R419	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R420	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R421	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R422	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R423	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R424	QRSA08J-753YN	RESISTOR	75kΩ,1/10W
R425	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R426	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R427	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R428	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R429	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R430	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R431	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R432	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R433	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R434	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R435	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R436	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R437	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R438	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R439	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R440	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R441	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R442	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R443	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R444	NRVA62D-751N	RESISTOR	750Ω,1/16W
R445	NRVA62D-153N	RESISTOR	15kΩ,1/16W
R446	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R447	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
R448	QRSA08J-333YN	RESISTOR 33kΩ,1/10W
R449	QRSA08J-153YN	RESISTOR 15kΩ,1/10W
R450	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R451	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R452	QRSA08J-222YN	RESISTOR 2.2kΩ,1/10W
R453	QRSA08J-273YN	RESISTOR 27kΩ,1/10W
R456	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R457	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R458	QRSA08J-121YN	RESISTOR, BR-S500 120Ω,1/10W
R459	NRVA62D-102N	RESISTOR, BR-S500 1kΩ,1/16W
R460	NRVA62D-751N	RESISTOR, BR-S500 750Ω,1/16W
R461	NRVA62D-391N	RESISTOR, BR-S500 390Ω,1/16W
R462	QRSA08J-562YN	RESISTOR 5.6kΩ,1/10W
R464	QRSA08J-0R0Y	RESISTOR, BR-S500 0Ω,1/10W
R465	QRSA08J-101YN	RESISTOR 100Ω,1/10W
R466	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R467	QRSA08J-391YN	RESISTOR 390Ω,1/10W
R468	QRSA08J-155YN	RESISTOR 1.5MΩ,1/10W
R469	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
R470	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
R471	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R472	QRSA08J-221YN	RESISTOR 220Ω,1/10W
R473	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R474	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R475	QRSA08J-473YN	RESISTOR 47kΩ,1/10W
R476	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R477	QRSA08J-152YN	RESISTOR 1.5kΩ,1/10W
B3	QRD161J-0R0	RESISTOR 0Ω,1/6W
C1	QCYA1EK-103	CAPACITOR 0.01μF,25V
C2	NEH11CM-476NP	E CAPACITOR 47μF,16V
C3	QCYA1EK-103	CAPACITOR 0.01μF,25V
C4	NEH51AM-107P	E CAPACITOR, BR-S800 100μF,10V
C5	NEH51AM-107P	E CAPACITOR, BR-S800 100μF,10V
C6	NEH11CM-226NP	E CAPACITOR, BR-S800 22μF,16V
C7	NEH11CM-226NP	E CAPACITOR, BR-S800 22μF,16V
C8	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C9	QCYA1HK-332	CAPACITOR, BR-S800 0.0033μF,50V
C10	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C11	QCYA1EK-473	CAPACITOR, BR-S800 0.047μF,25V
C12	NEH11EM-475NZ	E CAPACITOR, BR-S800 4.7μF,25V
C13	NEH11EM-475NZ	E CAPACITOR, BR-S800 4.7μF,25V
C14	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C15	NEN10JM-226NP	E CAPACITOR 22μF,6.3V
C16	QCTA1CH-390	CAPACITOR 39pF,16V
C17	QCTA1CH-121	CAPACITOR 120pF,16V
C18	NEN11HM-105NZ	E CAPACITOR 1μF,50V
C19	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C20	NEH11CM-476NP	E CAPACITOR, BR-S800 47μF,16V
C21	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C22	QCYA1EK-223	CAPACITOR, BR-S800 0.022μF,25V
C23	QCTA1CH-100	CAPACITOR, BR-S800 10pF,16V
C24	QCTA1CH-330	CAPACITOR, BR-S800 33pF,16V
C25	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C26	NEH11CM-476NP	E CAPACITOR, BR-S800 47μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
C27	QCYA1EK-103	CAPACITOR, BR-S800 0.01μF,25V
C28	NEH11CM-476NP	E CAPACITOR, BR-S800 47μF,16V
C29	QCTA1CH-390	CAPACITOR, BR-S800 39pF,16V
C30	NEH51AM-107P	E CAPACITOR, BR-S800 100μF,10V
C32	NEH11CM-476NP	E CAPACITOR 47μF,16V
C33	QCYA1EK-103	CAPACITOR 0.01μF,25V
C34	NEH11CM-476NP	E CAPACITOR 47μF,16V
C35	QCYA1EK-103	CAPACITOR 0.01μF,25V
C36	QCYA1EK-104	CAPACITOR 0.1μF,25V
C37	QCYA1EK-104	CAPACITOR 0.1μF,25V
C38	QCYA1EK-103	CAPACITOR 0.01μF,25V
C39	QCYA1EK-103	CAPACITOR 0.01μF,25V
C40	NEH11CM-476NP	E CAPACITOR 47μF,16V
C41	QCYA1EK-104	CAPACITOR 0.1μF,25V
C42	QCYA1HK-102	CAPACITOR 0.001μF,50V
C43	QCYA1EK-104	CAPACITOR 0.1μF,25V
C44	QCYA1EK-103	CAPACITOR 0.01μF,25V
C45	QCYA1EK-103	CAPACITOR 0.01μF,25V
C46	QCYA1EK-104	CAPACITOR 0.1μF,25V
C47	QCYA1EK-103	CAPACITOR 0.01μF,25V
C48	QCTA1CH-100	CAPACITOR 10pF,16V
C49	QCYA1EK-104	CAPACITOR 0.1μF,25V
C50	QCYA1EK-104	CAPACITOR 0.1μF,25V
C51	QCYA1EK-104	CAPACITOR 0.1μF,25V
C52	QCYA1EK-104	CAPACITOR 0.1μF,25V
C53	QCYA1EK-103	CAPACITOR 0.01μF,25V
C54	NEH11CM-476NP	E CAPACITOR 47μF,16V
C55	QCYA1EK-103	CAPACITOR 0.01μF,25V
C56	NEH51AM-107P	E CAPACITOR 100μF,10V
C57	NEH51AM-107P	E CAPACITOR 100μF,10V
C59	QCYA1EK-103	CAPACITOR 0.01μF,25V
C60	NEH11CM-476NP	E CAPACITOR 47μF,16V
C61	QCYA1EK-103	CAPACITOR 0.01μF,25V
C62	QCYA1EK-223	CAPACITOR 0.022μF,25V
C63	QCYA1EK-223	CAPACITOR 0.022μF,25V
C64	QCTA1CH-331	CAPACITOR 330pF,16V
C65	QCYA1EK-103	CAPACITOR 0.01μF,25V
C66	NEH11CM-476NP	E CAPACITOR 47μF,16V
C67	QCYA1EK-103	CAPACITOR 0.01μF,25V
C68	QCYA1EK-223	CAPACITOR, BR-S800 0.022μF,25V
C69	NEH11EM-475NZ	E CAPACITOR 4.7μF,25V
C70	QCYA1EK-223	CAPACITOR, BR-S800 0.022μF,25V
C71	NEH11EM-475NZ	E CAPACITOR, BR-S800 4.7μF,25V
C72	NEH11EM-475NZ	E CAPACITOR 4.7μF,25V
C73	NEH11EM-475NZ	E CAPACITOR, BR-S800 4.7μF,25V
C74	QCYA1EK-103	CAPACITOR 0.01μF,25V
C75	NEH11CM-476NP	E CAPACITOR 47μF,16V
C76	QCYA1EK-103	CAPACITOR 0.01μF,25V
C77	NEN11EM-475NZ	NP E CAPACITOR 4.7μF,25V
C78	QCYA1EK-103	CAPACITOR 0.01μF,25V
C79	NEH11EM-475NZ	E CAPACITOR, BR-S800 4.7μF,25V
C80	NEH51AM-107P	E CAPACITOR 100μF,10V
C81	NEH51AM-107P	E CAPACITOR 100μF,10V
C82	NEH51AM-107P	E CAPACITOR 100μF,10V
C83	QCTA1CH-100	CAPACITOR 10pF,16V
C84	NEH11HM-105NZ	E CAPACITOR 1μF,50V
C85	NEH11CM-476NP	E CAPACITOR 47μF,16V

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C86	NEH51AM-227W	E CAPACITOR	220μF,10V
C87	QCYA1EK-103	CAPACITOR	0.01μF,25V
C88	NEH11CM-476NP	E CAPACITOR	47μF,16V
C89	QCYA1EK-103	CAPACITOR	0.01μF,25V
C90	QCYA1EK-223	CAPACITOR	0.022μF,25V
C91	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C92	QCYA1EK-223	CAPACITOR	0.022μF,25V
C93	QCYA1EK-223	CAPACITOR	0.022μF,25V
C94	QCYA1EK-103	CAPACITOR	0.01μF,25V
C95	NEH11CM-476NP	E CAPACITOR	47μF,16V
C96	QCYA1EK-103	CAPACITOR	0.01μF,25V
C97	NEH51AM-107P	E CAPACITOR	100μF,10V
C98	NEH51AM-107P	E CAPACITOR	100μF,10V
C99	NEH51AM-107P	E CAPACITOR	100μF,10V
C100	QCTA1CH-150	CAPACITOR	15pF,16V
C101	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C102	NEH11CM-476NP	E CAPACITOR	47μF,16V
C103	NEH51AM-227W	E CAPACITOR	220μF,10V
C104	QCYA1EK-103	CAPACITOR	0.01μF,25V
C105	NEH51AM-227W	E CAPACITOR	220μF,10V
C106	QCYA1EK-103	CAPACITOR	0.01μF,25V
C107	QCYA1EK-103	CAPACITOR	0.01μF,25V
C108	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C109	QCYA1EK-103	CAPACITOR	0.01μF,25V
C110	QCYA1EK-103	CAPACITOR	0.01μF,25V
C111	QCYA1EK-103	CAPACITOR	0.01μF,25V
C112	NEH11HM-224NZ	E CAPACITOR	0.22μF,50V
C113	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C114	QCYA1EK-103	CAPACITOR	0.01μF,25V
C115	QCTA1CH-220	CAPACITOR, BR-S800	22pF,16V
C116	NAT3112-400RZ	CHIP TRIMER, BR-S800	
C117	QCTA1CH-120	CAPACITOR, BR-S500	12pF,16V
C118	QCYA1EK-103	CAPACITOR	0.01μF,25V
C119	QCYA1EK-103	CAPACITOR	0.01μF,25V
C120	QCYA1EK-103	CAPACITOR	0.01μF,25V
C121	QCYA1EK-103	CAPACITOR	0.01μF,25V
C122	QCYA1EK-103	CAPACITOR	0.01μF,25V
C123	NEH11CM-106N	E CAPACITOR	10μF,16V
C124	QCYA1EK-103	CAPACITOR	0.01μF,25V
C125	NEH11CM-106N	E CAPACITOR	10μF,16V
C126	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C127	QCYA1EK-103	CAPACITOR	0.01μF,25V
C128	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C129	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C130	NEH11CM-106N	E CAPACITOR	10μF,16V
C131	NEH11CM-106N	E CAPACITOR, BR-S800	10μF,16V
C132	QCYA1EK-103	CAPACITOR	0.01μF,25V
C133	QCTA1CH-101	CAPACITOR	100pF,16V
C134	NEH11HM-104NZ	E CAPACITOR	0.1μF,50V
C135	QCTA1CH-5R0	CAPACITOR	5pF,16V
C136	QCYA1HK-102	CAPACITOR	0.001μF,50V
C137	NAT3112-400RZ	CHIP TRIMER	
C138	QCTA1CH-330	CAPACITOR	33pF,16V
C139	QCYA1EK-103	CAPACITOR	0.01μF,25V
C140	QCTA1CH-121	CAPACITOR	120pF,16V
C141	QCYA1EK-103	CAPACITOR	0.01μF,25V
C142	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C143	QCYA1HK-153	CAPACITOR	0.015μF,50V
C144	NEH11HM-474NZ	E CAPACITOR	0.47μF,50V
C145	NEH11HM-225NZ	E CAPACITOR	2.2μF,50V
C146	QCTA1CH-471	CAPACITOR	470pF,16V
C149	QCYA1HK-102	CAPACITOR	0.001μF,50V
C150	NAT3112-400RZ	CHIP TRIMER	
C151	QCTA1CH-390	CAPACITOR	39pF,16V
C152	QCYA1EK-103	CAPACITOR	0.01μF,25V
C153	QCYA1EK-223	CAPACITOR	0.022μF,25V
C154	NEH11CM-106N	E CAPACITOR	10μF,16V
C155	QCYA1EK-104	CAPACITOR	0.1μF,25V
C156	QCTA1CH-330	CAPACITOR	33pF,16V
C157	QCYA1EK-103	CAPACITOR	0.01μF,25V
C158	NEH11EM-475NZ	E CAPACITOR	4.7μF,25V
C159	QCYA1EK-103	CAPACITOR	0.01μF,25V
C160	NEH11CM-476NP	E CAPACITOR	47μF,16V
C161	QCYA1EK-103	CAPACITOR	0.01μF,25V
C162	QCYA1EK-104	CAPACITOR	0.1μF,25V
C163	QCYA1EK-104	CAPACITOR	0.1μF,25V
C164	QCYA1EK-103	CAPACITOR	0.01μF,25V
C165	QCYA1EK-103	CAPACITOR	0.01μF,25V
C166	NEH11CM-476NP	E CAPACITOR	47μF,16V
C167	QCYA1EK-104	CAPACITOR	0.1μF,25V
C168	QCYA1EK-104	CAPACITOR	0.1μF,25V
C169	QCYA1EK-104	CAPACITOR	0.1μF,25V
C170	QCYA1EK-104	CAPACITOR	0.1μF,25V
C171	QCYA1EK-104	CAPACITOR	0.1μF,25V
C172	QCTA1CH-100	CAPACITOR	10pF,16V
C173	QCYA1HK-102	CAPACITOR	0.001μF,50V
C174	QCYA1EK-104	CAPACITOR	0.1μF,25V
C175	QCYA1EK-103	CAPACITOR	0.01μF,25V
C176	QCYA1EK-104	CAPACITOR	0.1μF,25V
C177	QCYA1EK-103	CAPACITOR	0.01μF,25V
C178	QCYA1EK-103	CAPACITOR	0.01μF,25V
C179	NEH11CM-476NP	E CAPACITOR	47μF,16V
C180	QCYA1EK-103	CAPACITOR	0.01μF,25V
C183	QCYA1EK-223	CAPACITOR	0.022μF,25V
C184	QCYA1EK-223	CAPACITOR	0.022μF,25V
C185	NEH11CM-476NP	E CAPACITOR	47μF,16V
C186	QCYA1EK-103	CAPACITOR	0.01μF,25V
C187	QCYA1EK-103	CAPACITOR	0.01μF,25V
C188	NEH11CM-476NP	E CAPACITOR	47μF,16V
C189	QCYA1EK-103	CAPACITOR	0.01μF,25V
C190	NEH11CM-106N	E CAPACITOR	10μF,16V
C191	NEH11CM-106N	E CAPACITOR	10μF,16V
C192	NEH11CM-106N	E CAPACITOR	10μF,16V
C193	QCTA1CH-121	CAPACITOR	120pF,16V
C194	QCTA1CH-391	CAPACITOR	390pF,16V
C195	NEH51AM-107P	E CAPACITOR	100μF,10V
C196	QCTA1CH-121	CAPACITOR	120pF,16V
C197	QCTA1CH-391	CAPACITOR	390pF,16V
C198	QCYA1EK-103	CAPACITOR	0.01μF,25V
C199	NEH11CM-476NP	E CAPACITOR	47μF,16V
C200	QCYA1EK-103	CAPACITOR	0.01μF,25V
C201	QCYA1EK-103	CAPACITOR	0.01μF,25V
C202	QCYA1EK-103	CAPACITOR	0.01μF,25V
C203	QCYA1EK-103	CAPACITOR	0.01μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C205	QCYA1EK-103	CAPACITOR	0.01μF,25V
C207	QCYA1EK-103	CAPACITOR	0.01μF,25V
C208	QCYA1EK-103	CAPACITOR	0.01μF,25V
C209	QCYA1EK-103	CAPACITOR	0.01μF,25V
C210	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C211	QCYA1EK-103	CAPACITOR	0.01μF,25V
C212	NEH11CM-476NP	E CAPACITOR	47μF,16V
C213	QCYA1EK-103	CAPACITOR	0.01μF,25V
C216	QCYA1EK-103	CAPACITOR	0.01μF,25V
C217	NEH11CM-476NP	E CAPACITOR	47μF,16V
C218	QCYA1EK-103	CAPACITOR	0.01μF,25V
C219	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C220	QCYA1HK-102	CAPACITOR	0.001μF,50V
C221	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C222	QCYA1EK-104	CAPACITOR	0.1μF,25V
C223	QCYA1EK-104	CAPACITOR	0.1μF,25V
C224	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C225	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C226	QCYA1HK-102	CAPACITOR	0.001μF,50V
C227	QCYA1EK-104	CAPACITOR	0.1μF,25V
C228	NEH11CM-106N	E CAPACITOR	10μF,16V
C229	QCYA1EK-103	CAPACITOR	0.01μF,25V
C232	NEH51AM-107P	E CAPACITOR	100μF,10V
C233	QCYA1EK-103	CAPACITOR	0.01μF,25V
C234	NEH51AM-107P	E CAPACITOR	100μF,10V
C235	QCYA1EK-103	CAPACITOR	0.01μF,25V
C236	QCYA1EK-683	CAPACITOR	0.068μF,25V
C237	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C238	QCTA1CH-151	CAPACITOR	150pF,16V
C239	QCYA1EK-683	CAPACITOR	0.068μF,25V
C240	QCYA1EK-473	CAPACITOR	0.047μF,25V
C241	QCYA1EK-473	CAPACITOR	0.047μF,25V
C242	QCYA1EK-473	CAPACITOR	0.047μF,25V
C243	QCYA1EK-473	CAPACITOR	0.047μF,25V
C244	QCYA1HK-273	CAPACITOR	0.027μF,50V
C245	QCYA1HK-183	CAPACITOR	0.018μF,50V
C247	QCYA1EK-103	CAPACITOR	0.01μF,25V
C248	NEH51AM-107P	E CAPACITOR	100μF,10V
C249	QCYA1EK-103	CAPACITOR	0.01μF,25V
C250	QCYA1EK-103	CAPACITOR	0.01μF,25V
C251	QCTA1CH-220	CAPACITOR	22pF,16V
C252	QCTA1CH-560	CAPACITOR	56pF,16V
C253	QCYA1EK-103	CAPACITOR	0.01μF,25V
C254	QCYA1EK-103	CAPACITOR	0.01μF,25V
C255	NEH51AM-107P	E CAPACITOR	100μF,10V
C256	QCYA1EK-103	CAPACITOR	0.01μF,25V
C258	QCYA1EK-683	CAPACITOR	0.068μF,25V
C259	QCYA1EK-103	CAPACITOR	0.01μF,25V
C260	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C261	QCYA1HK-153	CAPACITOR	0.015μF,50V
C262	QCTA1CH-471	CAPACITOR	470pF,16V
C263	QCTA1CH-151	CAPACITOR	150pF,16V
C264	QCYA1EK-103	CAPACITOR	0.01μF,25V
C265	QCYA1EK-103	CAPACITOR	0.01μF,25V
C266	QCYA1EK-103	CAPACITOR	0.01μF,25V
C267	QCYA1EK-103	CAPACITOR	0.01μF,25V
C268	QCYA1EK-103	CAPACITOR	0.01μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C269	QCYA1EK-683	CAPACITOR	0.068μF,25V
C270	QCYA1EK-103	CAPACITOR	0.01μF,25V
C271	QCTA1CH-180	CAPACITOR	18pF,16V
C272	QCTA1CH-560	CAPACITOR	56pF,16V
C273	QCYA1EK-103	CAPACITOR	0.01μF,25V
C274	QCYA1EK-104	CAPACITOR	0.1μF,25V
C276	QCTA1CH-101	CAPACITOR	100pF,16V
C277	QCYA1HK-102	CAPACITOR	0.001μF,50V
C278	QCTA1CH-330	CAPACITOR, BR-S800	33pF,16V
C279	QCYA1EK-103	CAPACITOR	0.01μF,25V
C280	QCTA1CH-390	CAPACITOR	39pF,16V
C281	QCYA1EK-103	CAPACITOR	0.01μF,25V
C282	NEH11CM-106N	E CAPACITOR	10μF,16V
C283	QCYA1EK-103	CAPACITOR	0.01μF,25V
C284	QCYA1HK-103	CAPACITOR	0.01μF,50V
C285	QCYA1HK-102	CAPACITOR	0.001μF,50V
C287	QCYA1HK-152	CAPACITOR	0.0015μF,50V
C288	QCYA1EK-103	M CAPACITOR	0.01μF,25V
C289	QCYA1EK-103	M CAPACITOR	0.01μF,25V
L2	PU58201-221J	COIL	220μH
L3	YU41134-221JY	COIL, BR-S800	220μH
L4	PU58201-150J	COIL, BR-S800	15μH
L5	YU41134-470JY	COIL, BR-S800	47μH
L7	YU41134-221JY	COIL	220μH
L8	YU41134-470JY	COIL	47μH
L9	YU41134-221JY	COIL	220μH
L10	YU41134-470JY	COIL	47μH
L11	YU41134-470JY	COIL	47μH
L12	YU41134-221JY	COIL	220μH
L13	YU41134-470JY	COIL	47μH
L14	YU41134-470JY	COIL	47μH
L15	PU58201-560J	COIL	56μH
L16	PU58201-470J	COIL	47μH
L17	PU58201-100J	COIL	10μH
L19	PU58201-180J	COIL	18μH
L21	YU41134-221JY	COIL	220μH
L22	YU41134-221JY	COIL	220μH
L25	YU41134-221JY	COIL	220μH
L26	PU58201-330J	COIL	33μH
L27	PU58201-330J	COIL	33μH
L28	YU41134-221JY	COIL	220μH
L29	YU41134-221JY	COIL	220μH
L30	YU41134-221JY	COIL	220μH
L33	YU41134-470JY	COIL, BR-S800	47μH
L33	YU41134-221JY	COIL, BR-S500	220μH
L35	PU58201-560J	COIL	56μH
L36	PU58201-220J	COIL	22μH
L37	PU58201-560J	COIL	56μH
L38	PU58201-220J	COIL	22μH
L39	PU58201-390J	COIL	39μH
LPF1	PELN0320	LOW PASS FILTER, BR-S800	
LPF2	PELN0321	LOW PASS FILTER	
LPF3	PELN0321	LOW PASS FILTER	
LPF4	PGZ01328-R	LOW PASS FILTER	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	LPF5	PELN0321	LOW PASS FILTER
	BPF1	PGZ01893-P	BAND PASS FILTER
	BPF2	PGZ01980-R	BAND PASS FILTER
	BPF3	PGZ01982-R	BAND PASS FILTER
⚠	X1	PGZ02016	CRYSTAL RESONATOR
⚠	K1	PGZ00627Z	CHIP.F.BEADS
⚠	K2	PGZ00627Z	CHIP.F.BEADS
⚠	K3	PGZ00627Z	CHIP.F.BEADS
⚠	K4	PGZ00627Z	CHIP.F.BEADS
⚠	K5	PGZ00627Z	CHIP.F.BEADS
⚠	K6	PGZ00627Z	CHIP.F.BEADS
⚠	K7	PGZ00627Z	CHIP.F.BEADS
⚠	K8	PGZ00627Z	CHIP.F.BEADS
⚠	K9	PGZ00627Z	CHIP.F.BEADS
⚠	K10	PGZ00627Z	CHIP.F.BEADS
⚠	TH2	ERT-D2FGL102S	THERMISTOR
	SPC1	PGZ01128-02	SPACER, ×2
	TP1	SCV1880-001	TEST PIN, ×25
	TP2	SCV1880-001	TEST PIN, ×4(GND)
	CN1	PGZ01937-44	MALE CONNECTOR
	CN2	PGZ01937-44	MALE CONNECTOR
	CN3	PGZ01756-11	CONNECTOR
	CN4	PGZ01756-10	CONNECTOR

VIDEO-2 BOARD ASSEMBLY <11>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PRK20263A-02	VIDEO2 BOARD ASSY, BR-S800
	PWBA	PRK20263B-02	VIDEO2 BOARD ASSY, BR-S500
	IC1	VC2076MP-XE	IC
	IC2	CXL5505M	F IC(DRY)
	IC3	JCP0032-HT	IC
	IC4	TC7S04F	IC
	IC5	TC7S04F	IC
	IC6	TC74HC4538AF	IC
	IC7	TC7S04F	IC
	IC8	MM1111XF	IC
	IC13	TC74HC4094AF	IC
	IC14	TC7S04F	IC
	IC15	MM1111XF	IC, BR-S800
	Q1	2SC2412K(RS)	TRANSISTOR
	Q2	2SC2412K(RS)	TRANSISTOR
	Q3	2SA1037K(QR)	TRANSISTOR
	Q4	2SC2412K(RS)	TRANSISTOR
	Q5	2SC2412K(RS)	TRANSISTOR
	Q7	2SA1037K(QR)	TRANSISTOR
	Q8	2SC2412K(RS)	TRANSISTOR
	Q9	2SC2412K(RS)	TRANSISTOR
	Q10	2SA1037K(QR)	TRANSISTOR
	Q11	2SA1037K(QR)	TRANSISTOR
	Q12	2SC2412K(RS)	TRANSISTOR
	Q13	2SC2412K(RS)	TRANSISTOR
	Q14	DTC144EK	TRANSISTOR, BR-S800
	Q15	DTC144EK	TRANSISTOR, BR-S800
	Q16	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q17	2SA1037K(QR)	TRANSISTOR, BR-S800
	Q18	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q19	2SC2412K(RS)	TRANSISTOR
	Q20	2SA1037K(QR)	TRANSISTOR
	Q21	2SC2412K(RS)	TRANSISTOR
	Q22	2SA1037K(QR)	TRANSISTOR
	Q23	DTA124EK	TRANSISTOR
	Q24	DTC144EK	TRANSISTOR
	Q25	2SC2412K(RS)	TRANSISTOR
	Q26	DTC144EK	TRANSISTOR
	Q27	DTC144EK	TRANSISTOR
	Q28	DTC144WK	TRANSISTOR
	Q30	DTC124EK	TRANSISTOR
	Q31	DTC124EK	TRANSISTOR
	Q32	DTC124EK	TRANSISTOR
	Q33	2SC2412K(RS)	TRANSISTOR
	Q34	DTC144EK	TRANSISTOR
	Q35	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q36	2SA1037K(QR)	TRANSISTOR, BR-S800
	Q37	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q38	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q39	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q40	2SA1037K(QR)	TRANSISTOR, BR-S800
	Q41	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q42	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q44	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q45	2SA1037K(QR)	TRANSISTOR, BR-S800
	Q46	2SC2412K(RS)	TRANSISTOR, BR-S800
	Q47	DTC144EK	TRANSISTOR, BR-S800
	Q48	2SC2412K(RS)	TRANSISTOR
	Q49	DTC144EK	TRANSISTOR
	Q50	DTC144EK	TRANSISTOR
	Q51	2SA1037K(QR)	TRANSISTOR
	Q52	2SC2412K(RS)	TRANSISTOR
	Q53	2SC2412K(RS)	TRANSISTOR
	Q54	2SC2412K(RS)	TRANSISTOR
	Q55	2SC2412K(RS)	TRANSISTOR
	Q56	DTC144EK	TRANSISTOR
	Q57	DTC144EK	TRANSISTOR
	Q58	2SC2412K(RS)	TRANSISTOR
	Q59	2SA1037K(QR)	TRANSISTOR
	Q60	2SA1037K(QR)	TRANSISTOR
	Q61	2SC2412K(RS)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
Q63	2SC2412K(RS)	TRANSISTOR
Q64	DTC144EK	TRANSISTOR
Q65	2SC2412K(RS)	TRANSISTOR
Q66	2SA1037K(QR)	TRANSISTOR
Q67	DTC144EK	TRANSISTOR
Q68	2SC2412K(RS)	TRANSISTOR
Q69	2SC2412K(RS)	TRANSISTOR
Q70	2SC2412K(RS)	TRANSISTOR
Q71	2SC2412K(RS)	TRANSISTOR
Q72	2SA1037K(QR)	TRANSISTOR
Q73	2SA1037K(QR)	TRANSISTOR, BR-S800
Q74	2SC2412K(RS)	TRANSISTOR
Q75	2SA1037K(QR)	TRANSISTOR
Q76	2SC2412K(RS)	TRANSISTOR
Q77	2SC2412K(RS)	TRANSISTOR
Q81	DTC144EK	TRANSISTOR
Q82	2SC2412K(RS)	TRANSISTOR
Q83	2SC2412K(RS)	TRANSISTOR
Q84	2SC2412K(RS)	TRANSISTOR
Q85	2SA1037K(QR)	TRANSISTOR
Q86	2SC2412K(RS)	TRANSISTOR
Q87	2SC2412K(RS)	TRANSISTOR
Q88	2SA1037K(QR)	TRANSISTOR
Q89	2SC2412K(RS)	TRANSISTOR
Q90	2SC2412K(RS)	TRANSISTOR
Q92	2SA1037K(QR)	TRANSISTOR
Q93	2SC2412K(RS)	TRANSISTOR
Q94	2SA1037K(QR)	TRANSISTOR
Q95	2SC2412K(RS)	TRANSISTOR
Q96	2SC2412K(RS)	TRANSISTOR
Q97	2SC2412K(RS)	TRANSISTOR
Q98	2SC2412K(RS)	TRANSISTOR
Q99	2SC2412K(RS)	TRANSISTOR
Q100	2SC2412K(RS)	TRANSISTOR
Q101	2SC2412K(RS)	TRANSISTOR
Q102	2SC2412K(RS)	TRANSISTOR
Q103	2SC2412K(RS)	TRANSISTOR, BR-S800
Q104	2SC2412K(RS)	TRANSISTOR
Q105	2SC2412K(RS)	TRANSISTOR, BR-S800
D1	DAN202K	DIODE, BR-S800
D3	DAN202K	DIODE
D4	DAN202K	DIODE
D5	DAN202K	DIODE
D6	DAN202K	DIODE, BR-S800
D7	DAN202K	DIODE
D8	DAN202K	DIODE
D11	1SS99	DIODE, BR-S800
D12	1SS99	DIODE, BR-S800
D13	1SS99	DIODE, BR-S800
D14	1SS99	DIODE, BR-S800
D15	1SS99	DIODE
D16	1SS99	DIODE
D17	DAN202K	DIODE
D19	1SS99	DIODE
D20	1SS99	DIODE

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
D22	DAN202K	DIODE
D23	DAN202K	DIODE
D25	1SS99	DIODE
D26	1SS99	DIODE
D27	1SS99	DIODE
D28	DAN202K	DIODE
D29	DAN202K	DIODE
D30	DAN202K	DIODE, BR-S800
D32	DAN202K	DIODE
R1	NVP1415-201N	V RESISTOR, BR-S800 200Ω,1/4W
R2	NVP1415-102N	V RESISTOR, BR-S800 1kΩ,1/4W
R3	NVP1415-501N	V RESISTOR 500Ω,1/4W
R4	NVP1415-203N	V RESISTOR, BR-S800 20kΩ,1/4W
R5	NVP1415-502N	V RESISTOR, BR-S800 5kΩ,1/4W
R6	NVP1415-502N	V RESISTOR, BR-S800 5kΩ,1/4W
R7	NVP1415-103N	V RESISTOR, BR-S800 10kΩ,1/4W
R8	NVP1415-103N	V RESISTOR, BR-S800 10kΩ,1/4W
R9	NVP1415-202N	V RESISTOR, BR-S800 2kΩ,1/4W
R10	NVP1416-203N	V RESISTOR 20kΩ,1/4W
R11	NVP1416-502N	V RESISTOR 5kΩ,1/4W
R12	NVP1415-501N	V RESISTOR, BR-S800 500Ω,1/4W
R13	NVP1415-501N	V RESISTOR, BR-S800 500Ω,1/4W
R14	NVP1415-501N	V RESISTOR, BR-S800 500Ω,1/4W
R15	NVP1415-501N	V RESISTOR, BR-S800 500Ω,1/4W
R16	NVP1416-502N	V RESISTOR 5kΩ,1/4W
R17	NVP1416-502N	V RESISTOR 5kΩ,1/4W
R18	NVP1416-202N	V RESISTOR 2kΩ,1/4W
R19	NVP1416-202N	V RESISTOR 2kΩ,1/4W
R20	NVP1415-202N	V RESISTOR 2kΩ,1/4W
R21	NVP1416-103N	V RESISTOR 10kΩ,1/4W
R101	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
R102	QRSA08J-153YN	RESISTOR 15kΩ,1/10W
R103	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R104	QRSA08J-222YN	RESISTOR 2.2kΩ,1/10W
R105	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R106	QRSA08J-331YN	RESISTOR 330Ω,1/10W
R107	QRSA08J-101YN	RESISTOR 100Ω,1/10W
R108	QRSA08J-182YN	RESISTOR 1.8kΩ,1/10W
R109	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R110	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R111	QRSA08J-183YN	RESISTOR 18kΩ,1/10W
R112	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R113	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R114	NRVA62D-911N	RESISTOR 910Ω,1/16W
R117	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R118	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R119	QRSA08J-0R0Y	RESISTOR 0Ω,1/10W
R121	QRSA08J-391YN	RESISTOR 390Ω,1/10W
R122	QRSA08J-242YN	RESISTOR 2.4kΩ,1/10W
R123	QRSA08J-101YN	RESISTOR, BR-S500 100Ω,1/10W
R124	QRSA08J-181YN	RESISTOR, BR-S800 180Ω,1/10W
R125	NRVA62D-301N	RESISTOR, BR-S500 300Ω,1/16W
R126	QRSA08J-183YN	RESISTOR 18kΩ,1/10W
R127	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R128	QRSA08J-102YN	RESISTOR 1kΩ,1/10W

#△REF No.	PART No.	PART NAME, DESCRIPTION	
R129	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R130	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R131	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R132	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R133	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R134	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R135	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R136	QRSA08J-561YN	RESISTOR, BR-S500	560Ω,1/10W
R137	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R138	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R139	NRVA62D-272N	RESISTOR	2.7kΩ,1/16W
R140	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R141	NRVA62D-151N	CMF RESISTOR	150Ω,1/16W
R142	NRVA62D-391N	CMF RESISTOR	390Ω,1/16W
R143	NRVA62D-122N	RESISTOR	1.2kΩ,1/16W
R144	NRVA62D-162N	CMF RESISTOR	1.6kΩ,1/16W
R145	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R146	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R147	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R148	NRVA62D-471N	RESISTOR	470Ω,1/16W
R149	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R150	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R151	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R152	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R153	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R154	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R155	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R156	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R157	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R158	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R159	QRSA08J-393YN	RESISTOR, BR-S800	39kΩ,1/10W
R160	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R161	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R162	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R163	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R164	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R165	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R166	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R167	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R168	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R169	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R170	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R171	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R172	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R173	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R174	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R175	QRSA08J-123YN	RESISTOR, BR-S800	12kΩ,1/10W
R176	QRSA08J-123YN	RESISTOR, BR-S800	12kΩ,1/10W
R177	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R178	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R179	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R180	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R181	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R182	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R183	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R184	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R185	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R186	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R187	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R188	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R189	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R190	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R191	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R192	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R193	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R194	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R196	NRVA62D-682N	RESISTOR	6.8kΩ,1/16W
R197	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R198	NRVA62D-391N	CMF RESISTOR	390Ω,1/16W
R199	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R200	NRVA62D-273N	RESISTOR	27kΩ,1/16W
R201	NRVA62D-183N	RESISTOR	18kΩ,1/16W
R202	QRSA08J-475YN	RESISTOR	4.7MΩ,1/10W
R203	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R204	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R205	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R206	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R207	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R209	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R210	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R211	NRVA62D-392N	RESISTOR, BR-S800	3.9kΩ,1/16W
R212	NRVA62D-562N	RESISTOR, BR-S800	5.6kΩ,1/16W
R213	NRVA62D-183N	RESISTOR, BR-S800	18kΩ,1/16W
R214	NRVA62D-822N	RESISTOR, BR-S800	8.2kΩ,1/16W
R215	NRVA62D-392N	RESISTOR, BR-S800	3.9kΩ,1/16W
R216	NRVA62D-822N	RESISTOR, BR-S800	8.2kΩ,1/16W
R217	NRVA62D-122N	RESISTOR, BR-S800	1.2kΩ,1/16W
R218	NRVA62D-104N	RESISTOR, BR-S800	100kΩ,1/16W
R219	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R220	QRSA08J-331YN	RESISTOR, BR-S800	330Ω,1/10W
R221	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R222	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R223	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R224	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R225	QRSA08J-331YN	RESISTOR, BR-S800	330Ω,1/10W
R226	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R227	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R228	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R229	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R230	QRSA08J-151YN	RESISTOR, BR-S800	150Ω,1/10W
R231	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R232	QRSA08J-222YN	RESISTOR, BR-S800	2.2kΩ,1/10W
R233	QRSA08J-331YN	RESISTOR, BR-S800	330Ω,1/10W
R234	QRSA08J-221YN	RESISTOR, BR-S800	220Ω,1/10W
R235	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R236	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R237	QRSA08J-561YN	RESISTOR, BR-S800	560Ω,1/10W
R238	QRSA08J-181YN	RESISTOR, BR-S800	180Ω,1/10W
R239	QRSA08J-183YN	RESISTOR, BR-S800	18kΩ,1/10W
R240	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R241	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R242	QRSA08J-471YN	RESISTOR, BR-S800	470Ω,1/10W
R243	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R244	QRSA08J-331YN	RESISTOR, BR-S800	330Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
R245	QRSA08J-181YN	RESISTOR, BR-S800 180Ω,1/10W
R246	QRSA08J-103YN	RESISTOR, BR-S800 10kΩ,1/10W
R247	QRSA08J-103YN	RESISTOR, BR-S800 10kΩ,1/10W
R248	QRSA08J-102YN	RESISTOR, BR-S800 1kΩ,1/10W
R249	QRSA08J-151YN	RESISTOR, BR-S800 150Ω,1/10W
R250	QRSA08J-102YN	RESISTOR, BR-S800 1kΩ,1/10W
R251	QRSA08J-222YN	RESISTOR, BR-S800 2.2kΩ,1/10W
R252	QRSA08J-271YN	RESISTOR, BR-S800 270Ω,1/10W
R253	QRSA08J-271YN	RESISTOR, BR-S800 270Ω,1/10W
R254	QRSA08J-102YN	RESISTOR, BR-S800 1kΩ,1/10W
R255	QRSA08J-561YN	RESISTOR, BR-S800 560Ω,1/10W
R256	QRSA08J-561YN	RESISTOR, BR-S800 560Ω,1/10W
R257	QRSA08J-181YN	RESISTOR, BR-S800 180Ω,1/10W
R258	QRSA08J-183YN	RESISTOR, BR-S800 18kΩ,1/10W
R259	QRSA08J-103YN	RESISTOR, BR-S800 10kΩ,1/10W
R260	QRSA08J-102YN	RESISTOR, BR-S800 1kΩ,1/10W
R261	QRSA08J-391YN	RESISTOR, BR-S800 390Ω,1/10W
R262	QRSA08J-393YN	RESISTOR, BR-S800 39kΩ,1/10W
R263	QRSA08J-183YN	RESISTOR, BR-S800 18kΩ,1/10W
R264	QRSA08J-471YN	RESISTOR, BR-S800 470Ω,1/10W
R266	QRSA08J-0R0Y	RESISTOR, BR-S800 0Ω,1/10W
R267	QRSA08J-391YN	RESISTOR, BR-S800 390Ω,1/10W
R268	QRSA08J-561YN	RESISTOR, BR-S800 560Ω,1/10W
R269	QRSA08J-391YN	RESISTOR, BR-S800 390Ω,1/10W
R270	QRSA08J-101YN	RESISTOR, BR-S800 100Ω,1/10W
R271	QRSA08J-102YN	RESISTOR, BR-S800 1kΩ,1/10W
R272	QRSA08J-681YN	RESISTOR, BR-S800 680Ω,1/10W
R273	QRSA08J-161YN	RESISTOR, BR-S800 160Ω,1/10W
R274	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R275	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R276	QRSA08J-333YN	RESISTOR 33kΩ,1/10W
R277	QRSA08J-273YN	RESISTOR 27kΩ,1/10W
R279	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R280	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R281	QRSA08J-101YN	RESISTOR 100Ω,1/10W
R282	QRSA08J-183YN	RESISTOR 18kΩ,1/10W
R283	QRSA08J-393YN	RESISTOR 39kΩ,1/10W
R284	QRSA08J-821YN	RESISTOR 820Ω,1/10W
R285	QRSA08J-821YN	RESISTOR 820Ω,1/10W
R287	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R288	QRSA08J-391YN	RESISTOR 390Ω,1/10W
R289	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R290	QRSA08J-331YN	RESISTOR 330Ω,1/10W
R291	QRSA08J-393YN	RESISTOR 39kΩ,1/10W
R292	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R293	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R294	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R295	QRSA08J-562YN	RESISTOR 5.6kΩ,1/10W
R296	NRVA62D-104N	RESISTOR 100kΩ,1/16W
R297	QRSA08J-104YN	RESISTOR 100kΩ,1/10W
R298	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R299	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R300	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R301	QRSA08J-272YN	RESISTOR 2.7kΩ,1/10W
R302	QRSA08J-122YN	RESISTOR 1.2kΩ,1/10W
R303	QRSA08J-562YN	RESISTOR 5.6kΩ,1/10W
R304	QRSA08J-223YN	RESISTOR 22kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
R305	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R306	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R307	QRSA08J-333YN	RESISTOR 33kΩ,1/10W
R308	QRSA08J-273YN	RESISTOR 27kΩ,1/10W
R309	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R310	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R311	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R312	QRSA08J-333YN	RESISTOR 33kΩ,1/10W
R313	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
R314	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R315	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R316	QRSA08J-151YN	RESISTOR 150Ω,1/10W
R317	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R318	QRSA08J-471YN	RESISTOR 470Ω,1/10W
R319	QRSA08J-272YN	RESISTOR 2.7kΩ,1/10W
R320	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R321	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R322	QRSA08J-272YN	RESISTOR 2.7kΩ,1/10W
R323	QRSA08J-822YN	RESISTOR 8.2kΩ,1/10W
R324	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R325	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R327	QRSA08J-473YN	RESISTOR 47kΩ,1/10W
R328	QRSA08J-123YN	RESISTOR 12kΩ,1/10W
R329	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R330	QRSA08J-680YN	RESISTOR 68Ω,1/10W
R331	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R332	QRSA08J-560YN	RESISTOR 56Ω,1/10W
R333	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R334	QRSA08J-152YN	RESISTOR 1.5kΩ,1/10W
R335	QRSA08J-182YN	RESISTOR 1.8kΩ,1/10W
R336	QRSA08J-272YN	RESISTOR 2.7kΩ,1/10W
R337	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R338	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R339	QRSA08J-393YN	RESISTOR 39kΩ,1/10W
R340	QRSA08J-153YN	RESISTOR 15kΩ,1/10W
R342	QRSA08J-391YN	RESISTOR 390Ω,1/10W
R343	QRSA08J-821YN	RESISTOR 820Ω,1/10W
R344	QRSA08J-681YN	RESISTOR 680Ω,1/10W
R346	QRSA08J-393YN	RESISTOR 39kΩ,1/10W
R347	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R348	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R349	QRSA08J-561YN	RESISTOR 560Ω,1/10W
R350	QRSA08J-392YN	RESISTOR 3.9kΩ,1/10W
R351	QRSA08J-271YN	RESISTOR 270Ω,1/10W
R353	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R354	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R355	QRSA08J-475YN	RESISTOR 4.7MΩ,1/10W
R356	QRSA08J-123YN	RESISTOR, BR-S800 12kΩ,1/10W
R357	QRSA08J-123YN	RESISTOR, BR-S800 12kΩ,1/10W
R358	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
R359	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
R360	QRSA08J-222YN	RESISTOR 2.2kΩ,1/10W
R361	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R362	QRSA08J-101YN	RESISTOR 100Ω,1/10W
R363	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
R365	QRSA08J-392YN	RESISTOR 3.9kΩ,1/10W
R366	QRSA08J-392YN	RESISTOR 3.9kΩ,1/10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R367	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R368	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R369	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R378	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R379	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R380	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R381	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R382	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R383	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R384	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R385	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R386	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R387	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R388	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R389	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R390	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R391	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R392	QRSA08J-225YN	RESISTOR	2.2MΩ,1/10W
R393	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R394	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R395	QRSA08J-560YN	RESISTOR	56Ω,1/10W
R396	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R397	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R398	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R399	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R400	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R401	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R402	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R404	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R405	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R406	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R407	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R408	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R409	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R410	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R411	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R412	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R413	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R414	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R415	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R416	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R417	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R418	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R419	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R420	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R421	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R422	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R423	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R424	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R425	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R426	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R427	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R428	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R429	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R431	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R432	QRSA08J-471YN	RESISTOR	470Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R433	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R434	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R435	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R436	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R437	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R438	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R439	QRSA08J-0R0Y	RESISTOR, BR-S500	0Ω,1/10W
R440	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R441	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
R442	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R443	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R444	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R445	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R446	QRSA08J-101YN	RESISTOR, BR-S800	100Ω,1/10W
R447	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R448	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R449	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R450	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R453	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R454	QRSA08J-0R0Y	RESISTOR, BR-S500	0Ω,1/10W
R455	QRSA08J-0R0Y	RESISTOR, BR-S800	0Ω,1/10W
R456	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R457	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R458	QRSA08J-475YN	RESISTOR	4.7MΩ,1/10W
R459	QRSA08J-334YN	RESISTOR	330kΩ,1/10W
R460	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R461	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
C1	QCYA1EK-103	CAPACITOR	0.01μF,25V
C2	NEH11CM-476NP	E CAPACITOR	47μF,16V
C3	QCYA1EK-103	CAPACITOR	0.01μF,25V
C4	NEN11EM-475NZ	E CAPACITOR	4.7μF,25V
C5	NEH11CM-106N	E CAPACITOR	10μF,16V
C6	QCYA1EK-103	CAPACITOR	0.01μF,25V
C7	NEH11CM-476NP	E CAPACITOR	47μF,16V
C8	QCYA1EK-103	CAPACITOR	0.01μF,25V
C9	NEH51AM-107P	E CAPACITOR	100μF,10V
C10	NEH11CM-476NP	E CAPACITOR	47μF,16V
C12	QCTA1CH-221	CAPACITOR	220pF,16V
C14	NEH10JM-107NP	E CAPACITOR	100μF,6.3V
C15	NEH51AM-107P	E CAPACITOR	100μF,10V
C17	QCTA1CH-121	CAPACITOR	120pF,16V
C18	QCYA1EK-103	CAPACITOR	0.01μF,25V
C19	NEH51AM-107P	E CAPACITOR	100μF,10V
C20	NEH11CM-476NP	E CAPACITOR	47μF,16V
C21	NEH11HM-225NZ	E CAPACITOR	2.2μF,50V
C22	NEH11HM-225NZ	E CAPACITOR	2.2μF,50V
C23	NEN11EM-475NZ	NP E CAPACITOR	4.7μF,25V
C24	QCTA1CH-100	CAPACITOR	10pF,16V
C25	QCTA1CH-301	CAPACITOR	300pF,16V
C26	QCTA1CH-301	CAPACITOR	300pF,16V
C27	QCTA1CH-221	CAPACITOR	220pF,16V
C28	QCTA1CH-820	CAPACITOR	82pF,16V
C29	QCTA1CH-271	CAPACITOR	270pF,16V
C30	QCTA1CH-101	CAPACITOR	100pF,16V
C31	QCTA1CH-181	CAPACITOR	180pF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C32	QCTA1CH-331	CAPACITOR	330pF,16V
C33	QCTA1CH-301	CAPACITOR	300pF,16V
C34	QCYA1EK-103	CAPACITOR	0.01μF,25V
C35	NEH11CM-476NP	E CAPACITOR	47μF,16V
C36	QCYA1EK-103	CAPACITOR	0.01μF,25V
C37	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C38	QCYA1EK-104	CAPACITOR	0.1μF,25V
C39	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C40	QCYA1EK-104	CAPACITOR	0.1μF,25V
C41	QCYA1EK-104	CAPACITOR	0.1μF,25V
C42	QCYA1EK-103	CAPACITOR	0.01μF,25V
C43	NEH11CM-476NP	E CAPACITOR	47μF,16V
C44	QCYA1EK-103	CAPACITOR	0.01μF,25V
C45	NEH11CM-106N	E CAPACITOR	10μF,16V
C46	NEH11CM-476NP	E CAPACITOR	47μF,16V
C47	NEH11CM-106N	E CAPACITOR	10μF,16V
C48	QCTA1CH-151	CAPACITOR	150pF,16V
C49	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C50	NEH11CM-476NP	E CAPACITOR, BR-S800	47μF,16V
C51	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C52	NEH51AM-107P	E CAPACITOR, BR-S800	100μF,10V
C53	QAT3661-500	TRIM. CAPACITOR, BR-S800	50pF
C54	QAT3661-500	TRIM. CAPACITOR, BR-S800	50pF
C56	QCTA1CH-120	CAPACITOR, BR-S800	12pF,16V
C57	NEH11CM-226NP	E CAPACITOR, BR-S800	22μF,16V
C58	QCYA1EK-103	CAPACITOR	0.01μF,25V
C59	NEH11CM-476NP	E CAPACITOR	47μF,16V
C60	QCYA1EK-103	CAPACITOR	0.01μF,25V
C61	NEH51AM-107P	E CAPACITOR	100μF,10V
C62	QCYA1EK-103	CAPACITOR	0.01μF,25V
C63	QETA1AM-108	E CAPACITOR	1000μF,10V
C64	QCYA1EK-103	CAPACITOR	0.01μF,25V
C65	NEN11EM-225NZ	E CAPACITOR, BR-S800	2.2μF,25V
C66	QCYA1EK-103	CAPACITOR	0.01μF,25V
C67	QCYA1EK-103	CAPACITOR	0.01μF,25V
C68	NEH11HM-474NZ	E CAPACITOR	0.47μF,50V
C69	NEH11HM-474NZ	E CAPACITOR	0.47μF,50V
C70	NEH11EM-475NZ	E CAPACITOR	4.7μF,25V
C71	NEH11CM-476NP	E CAPACITOR	47μF,16V
C72	QCYA1EK-103	CAPACITOR	0.01μF,25V
C73	QCYA1EK-103	CAPACITOR	0.01μF,25V
C74	NEH11EM-336NP	E CAPACITOR	33μF,25V
C75	QCYA1EK-103	CAPACITOR	0.01μF,25V
C76	NEH11EM-336NP	E CAPACITOR	33μF,25V
C77	QCTA1CH-330	CAPACITOR	33pF,16V
C78	QCYA1EK-473	CAPACITOR	0.047μF,25V
C79	QCTA1CH-6R0	CAPACITOR	6pF,16V
C80	QCTA1CH-100	CAPACITOR	10pF,16V
C81	QCTA1CH-270	CAPACITOR	27pF,16V
C82	QCTA1CH-270	CAPACITOR	27pF,16V
C83	QCTA1CH-180	CAPACITOR	18pF,16V
C84	QCTA1CH-560	CAPACITOR	56pF,16V
C85	QCTA1CH-220	CAPACITOR	22pF,16V
C86	QCTA1CH-270	CAPACITOR	27pF,16V
C87	QCTA1CH-471	CAPACITOR	470pF,16V
C88	QCTA1CH-181	CAPACITOR	180pF,16V
C89	QCYA1EK-103	CAPACITOR	0.01μF,25V
C90	QCYA1EK-223	CAPACITOR	0.022μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C91	QCTA1CH-220	CAPACITOR	22pF,16V
C92	QCYA1EK-103	CAPACITOR	0.01μF,25V
C93	QCYA1EK-103	CAPACITOR	0.01μF,25V
C94	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C95	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C96	QCYA1EK-103	CAPACITOR	0.01μF,25V
C97	NEH11CM-226NP	E CAPACITOR	22μF,16V
C98	NEH11HM-474NZ	E CAPACITOR	0.47μF,50V
C99	QCYA1EK-103	CAPACITOR	0.01μF,25V
C100	NEH11HM-474NZ	E CAPACITOR	0.47μF,50V
C101	QCTA1CH-151	CAPACITOR, BR-S800	150pF,16V
C102	QCTA1CH-220	CAPACITOR, BR-S800	22pF,16V
C103	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C104	NEH11CM-476NP	E CAPACITOR, BR-S800	47μF,16V
C105	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C106	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C107	QCTA1CH-151	CAPACITOR, BR-S800	150pF,16V
C108	QCTA1CH-560	CAPACITOR, BR-S800	56pF,16V
C109	QCYA1HK-183	CAPACITOR, BR-S800	0.018μF,50V
C110	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C112	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C113	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C114	QCTA1CH-560	CAPACITOR, BR-S800	56pF,16V
C115	QCTA1CH-330	CAPACITOR, BR-S800	33pF,16V
C116	QCTA1CH-151	CAPACITOR, BR-S800	150pF,16V
C117	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C118	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C120	QCYA1EK-223	CAPACITOR, BR-S800	0.022μF,25V
C121	QCTA1CH-181	CAPACITOR	180pF,16V
C122	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C123	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C124	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C125	NEH11CM-476NP	E CAPACITOR, BR-S800	47μF,16V
C126	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
C127	QCYA1EK-104	CAPACITOR, BR-S800	0.1μF,25V
C129	QCTA1CH-6R0	CAPACITOR, BR-S800	6pF,16V
C130	QCTA1CH-151	CAPACITOR, BR-S800	150pF,16V
C131	QCYA1EK-104	CAPACITOR, BR-S800	0.1μF,25V
C132	QCYA1EK-104	CAPACITOR, BR-S800	0.1μF,25V
C133	QCYA1EK-103	CAPACITOR	0.01μF,25V
C134	NEH11CM-476NP	E CAPACITOR	47μF,16V
C135	QCYA1EK-103	CAPACITOR	0.01μF,25V
C136	QCTA1CH-271	CAPACITOR	270pF,16V
C138	QCYA1EK-103	CAPACITOR	0.01μF,25V
C140	QCTA1CH-101	CAPACITOR	100pF,16V
C142	QCTA1CH-470	CAPACITOR	47pF,16V
C143	QCYA1EK-103	CAPACITOR	0.01μF,25V
C144	QCYA1EK-103	CAPACITOR	0.01μF,25V
C147	QCTA1CH-820	CAPACITOR	82pF,16V
C148	QCYA1EK-103	CAPACITOR	0.01μF,25V
C149	QCYA1EK-103	CAPACITOR	0.01μF,25V
C150	QCYA1EK-103	CAPACITOR	0.01μF,25V
C151	NEH11CM-476NP	E CAPACITOR	47μF,16V
C152	QCYA1EK-103	CAPACITOR	0.01μF,25V
C153	QCYA1HK-153	CAPACITOR	0.015μF,50V
C154	QCYA1EK-223	CAPACITOR	0.022μF,25V
C155	QCTA1CH-271	CAPACITOR	270pF,16V

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C156	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C157	QCTA1CH-220	CAPACITOR	22pF,16V
C159	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C160	QCTA1CH-390	CAPACITOR	39pF,16V
C161	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C162	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C164	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C165	QCTA1CH-330	CAPACITOR	33pF,16V
C166	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C167	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C168	QCTA1CH-330	CAPACITOR	33pF,16V
C169	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C170	QCTA1CH-470	CAPACITOR	47pF,16V
C172	QCTA1CH-220	CAPACITOR	22pF,16V
C173	QCTA1CH-390	CAPACITOR	39pF,16V
C174	QCTA1CH-120	CAPACITOR	12pF,16V
C175	QCTA1CH-120	CAPACITOR	12pF,16V
C176	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C180	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C181	NEH11CM-476NP	E CAPACITOR	47 μ F,16V
C182	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C183	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C184	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C185	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C186	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C187	QETA1AM-477	E CAPACITOR	470 μ F,10V
C188	QCYA1HK-682	CAPACITOR	0.0068 μ F,50V
C189	QCTA1CH-330	CAPACITOR	33pF,16V
C190	QCYA1EK-473	CAPACITOR	0.047 μ F,25V
C191	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C193	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C195	QCYA1HK-122	CAPACITOR	0.0012 μ F,50V
C196	QCTA1CH-331	CAPACITOR	330pF,16V
C197	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C198	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C199	NEH11CM-476NP	E CAPACITOR	47 μ F,16V
C200	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C201	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C202	QETA1CM-107	E CAPACITOR	100 μ F,16V
C203	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C204	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C206	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C207	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C208	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C209	NEH51AM-107P	E CAPACITOR	100 μ F,10V
C212	NEH51AM-107P	E CAPACITOR	100 μ F,10V
C213	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C214	NEH11HM-474NZ	E CAPACITOR	0.47 μ F,50V
C215	NEH11HM-474NZ	E CAPACITOR	0.47 μ F,50V
C216	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C217	QCTA1CH-150	CAPACITOR	15pF,16V
C218	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C219	QCTA1CH-390	CAPACITOR	39pF,16V
C220	NEH51AM-107P	E CAPACITOR	100 μ F,10V
C221	QCTA1CH-820	CAPACITOR	82pF,16V
C222	QCYA1EK-103	CAPACITOR	0.01 μ F,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C223	NEH11CM-476NP	E CAPACITOR	47 μ F,16V
C224	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C225	NEH51AM-107P	E CAPACITOR	100 μ F,10V
C226	QCTA1CH-391	CAPACITOR	390pF,16V
C227	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C228	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C229	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C230	QCTA1CH-220	CAPACITOR	22pF,16V
C231	QCTA1CH-330	CAPACITOR, BR-S800	33pF,16V
C232	QCTA1CH-470	CAPACITOR, BR-S800	47pF,16V
C233	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C234	QCTA1CH-680	CAPACITOR	68pF,16V
C236	QCTA1CH-270	CAPACITOR, BR-S800	27pF,16V
C237	QCTA1CH-220	CAPACITOR	22pF,16V
C239	NEH11CM-476NP	E CAPACITOR, BR-S800	47 μ F,16V
C240	QCTA1CH-151	CAPACITOR	150pF,16V
C241	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
L1	YU41134-221JY	COIL	220 μ H
L2	YU41134-221JY	COIL	220 μ H
L3	PU58201-150J	COIL	15 μ H
L4	PU58201-180J	COIL	18 μ H
L5	YU41134-221JY	COIL	220 μ H
L6	YU41134-221JY	COIL	220 μ H
L7	YU41134-221JY	COIL, BR-S800	220 μ H
L8	YU41134-221JY	COIL	220 μ H
L9	YU41134-470JY	COIL	47 μ H
L10	PU58201-390J	COIL	39 μ H
L11	YU41134-1R0MY	COIL	1 μ H
L12	PU58201-680J	COIL	68 μ H
L13	PU58201-391J	COIL	390 μ H
L14	PU58201-121J	COIL	120 μ H
L15	PU58201-820J	COIL	82 μ H
L16	PU58201-100J	COIL	10 μ H
L17	PU58201-220J	COIL	22 μ H
L18	YU41134-221JY	COIL, BR-S800	220 μ H
L19	PU58201-331J	COIL, BR-S800	330 μ H
L20	PU58201-560J	COIL, BR-S800	56 μ H
L21	PU58201-330J	COIL, BR-S800	33 μ H
L22	YU41134-221JY	COIL, BR-S800	220 μ H
L23	PU58201-4R7J	COIL, BR-S800	4.7 μ H
L24	YU41134-221JY	COIL	220 μ H
L25	PU58201-221J	COIL	220 μ H
L27	PU58201-560J	COIL	56 μ H
L28	PU58201-120J	COIL	12 μ H
L31	YU41134-221JY	COIL	220 μ H
L32	PU58201-221J	COIL	220 μ H
L33	PU58201-330J	COIL	33 μ H
L35	PU58201-680J	COIL	68 μ H
L36	PU58201-470J	COIL	47 μ H
L37	PU58201-100J	COIL	10 μ H
L38	PU58201-390J	COIL	39 μ H
L39	PU58201-221J	COIL	220 μ H
L40	PU58201-100J	COIL	10 μ H
L41	YU41134-221JY	COIL	220 μ H
L42	CE40344-821YL	COIL	

#△	REF No.	PART No.	PART NAME, DESCRIPTION	
	L43	PU58201-331J	COIL	330μH
	L44	PU54710-822	COIL	8.2mH
	L46	YU41134-221JY	COIL	220μH
	L47	YU41134-470JY	COIL	47μH
	L48	YU41134-221JY	COIL	220μH
	L49	PU58201-101J	COIL, BR-S800	100μH
	L50	PU58201-270J	COIL	27μH
	L51	PU58201-820J	COIL	82μH
	LPF1	PGZ01983	LOW PASS FILTER	
	LPF2	PU60737	LOW PASS FILTER	
	LPF3	PGZ01981-R	LOW PASS FILTER	
	LPF4	PGZ01329-R	LOW PASS FILTER	
	DL1	PELN0320	LOW PASS FILTER	
	DL2	PGZ00131-003	DELAY LINE	
△	K1	PGZ00627Z	CHIP FERRATE BEADS	
△	K2	PGZ00627Z	CHIP FERRATE BEADS	
△	TH1	ERT-D2FGL103S	THERMISTOR	
△	TH2	ERT-D2FGL103S	THERMISTOR	
	SPC1	PGZ01128-02	SPACER, ×2	
	TP1	SCV1880-001	TEST PIN, ×15	
	TP2	SCV1880-001	TEST PIN, ×4(GND)	
	CN1	PGZ01937-44	MALE CONNECTOR	
	CN2	PGZ01937-44	MALE CONNECTOR	
	CN3	PU59555-114	CONNECTOR	

AV PRE/REC BOARD ASSEMBLY <12>

#△	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK20222C-02	AV P/R BOARD ASSY, BR-S800	
	PWBA	PRK20222D	AV P/R BOARD ASSY, BR-S500	
	IC1	BA7743FS	IC	
	IC2	M5278D05	IC	
	IC101	M5278D09	IC	
	IC102	M5278L05	IC	
	IC103	TC4013BF	IC	
	IC104	TC4053BF	IC	
	IC105	TC4S30F	IC	
	IC106	TC7W02F	IC	
	IC107	UPC2320GS	IC(DRY-BKG)	
	Q1	DTC323TK	TRANSISTOR, BR-S800	
	Q2	DTC323TK	TRANSISTOR, BR-S800	
	Q3	DTB123TS	TRANSISTOR, BR-S800	
	Q4	DTC124EK	DIODE, BR-S800	
	Q101	2SD601A(Q)	TRANSISTOR	
	Q102	2SC3110	TRANSISTOR	
	Q103	2SC3110	TRANSISTOR	
	Q104	2SC3110	TRANSISTOR	
	Q105	2SC3110	TRANSISTOR	
	Q106	2SA933S(Q)	TRANSISTOR, BR-S800	
	Q107	2SC1741S(QR)	TRANSISTOR, BR-S800	
	Q108	2SA933S(Q)	TRANSISTOR, BR-S800	
	Q109	2SD639R	TRANSISTOR, BR-S800	
	Q110	2SD639R	TRANSISTOR, BR-S800	
	Q111	2SD601A(Q)	TRANSISTOR	
	Q112	DTC124EK	TRANSISTOR, BR-S800	
	D1	1SS136	DIODE	
	D2	1SS136	DIODE	
	D101	RD10ES-T1B1	ZENER DIODE, BR-S800	
	R1	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R2	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R3	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
	R4	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R5	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
	R6	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
	R7	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R8	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R10	QRSA08J-8R2YN	RESISTOR, BR-S800	8.2Ω,1/10W
	R11	QRSA08J-224YN	RESISTOR, BR-S800	220kΩ,1/10W
	R12	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R14	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R15	QRSA08J-272YN	RESISTOR, BR-S800	2.7kΩ,1/10W
	R19	QRSA08J-101YN	RESISTOR, BR-S800	100Ω,1/10W
	R101	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R102	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R103	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R104	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R105	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R106	QRSA08J-221YN	RESISTOR, BR-S800	220Ω,1/10W
	R107	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R108	QRSA08J-331YN	RESISTOR	330Ω,1/10W
	R109	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R110	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R111	QRSA08J-470YN	RESISTOR	47Ω,1/10W
	R112	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R113	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R114	QRSA08J-470YN	RESISTOR	47Ω,1/10W
	R115	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R116	QRSA08J-680YN	RESISTOR	68Ω,1/10W
	R117	QRSA08J-820YN	RESISTOR	82Ω,1/10W
	R118	PGZ01994-601Z	RESISTOR	
	R119	PGZ01994-601Z	RESISTOR	
	R120	QRSA08J-103YN	RESISTOR	10kΩ,1/10W

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#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R121	PGZ01994-601Z	RESISTOR	
	R122	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R123	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R124	PGZ01994-601Z	RESISTOR	
	R125	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R126	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R127	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
	R128	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
	R129	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
	R130	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
	R131	QRSA08J-472YN	RESISTOR, BR-S800	4.7kΩ,1/10W
	R132	QRSA08J-473YN	RESISTOR, BR-S800	47kΩ,1/10W
	R133	QRSA08J-222YN	RESISTOR, BR-S800	2.2kΩ,1/10W
	R134	QRSA08J-473YN	RESISTOR, BR-S800	47kΩ,1/10W
	R135	QRSA08J-183YN	RESISTOR, BR-S800	18kΩ,1/10W
	R136	QRSA08J-121YN	RESISTOR, BR-S800	120Ω,1/10W
	R137	QRSA08J-104YN	RESISTOR, BR-S800	100kΩ,1/10W
	R138	QRSA08J-104YN	RESISTOR, BR-S800	100kΩ,1/10W
	R139	QRSA08J-121YN	RESISTOR, BR-S800	120Ω,1/10W
	R140	QRSA08J-221YN	RESISTOR, BR-S800	220Ω,1/10W
	R141	QRSA08J-391YN	RESISTOR	390Ω,1/10W
	R142	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
	R143	QRSA08J-121YN	RESISTOR, BR-S800	120Ω,1/10W
	R144	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
	R145	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R146	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	C1	QCYA1HK-102	CAPACITOR, BR-S800	0.001μF,50V
	C2	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C3	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C4	QEE81AM-107	TANTAL CAPACITOR	100μF,10V
	C5	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C6	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C7	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C8	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C9	QCTA1CH-561	CAPACITOR	560pF,16V
	C10	QCTA1CH-561	CAPACITOR	560pF,16V
	C11	QER61HM-105	E CAPACITOR	1μF,50V
	C12	QER61HM-105	E CAPACITOR	1μF,50V
	C13	QCTA1CH-101	CAPACITOR	100pF,16V
	C14	QFN31HJ-104	M CAPACITOR, BR-S800	0.1μF,50V
	C15	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C16	QER61CM-476	E CAPACITOR	47μF,16V
	C17	QCYA1HK-103	CAPACITOR	0.01μF,50V
⚠	C18	QCFA1CZ-224	CAPACITOR, BR-S800	0.22μF,16V
	C18	QRSA08J-0R0Y	RESISTOR, BR-S500	0Ω,1/10W
	C19	QCYA1HK-102	CAPACITOR, BR-S800	0.001μF,50V
	C101	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C102	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C103	QEE81CM-106	TANTAL CAPACITOR	10μF,16V
	C104	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C105	QEE81CM-106	TANTAL CAPACITOR	10μF,16V
	C106	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C107	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C108	QEE81CM-106	TANTAL CAPACITOR	10μF,16V
	C109	QEE81CM-106	TANTAL CAPACITOR	10μF,16V
	C110	QCYA1EK-103	CAPACITOR	0.01μF,25V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C111	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C112	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C113	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C114	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C115	QER61CM-106	E CAPACITOR	10μF,16V
	C116	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C117	QCYA1EK-104	CAPACITOR, BR-S800	0.1μF,25V
	C118	QCYA1EK-104	CAPACITOR, BR-S800	0.1μF,25V
	C119	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C120	QEE81VM-474	TANTAL CAPACITOR	0.47μF,35V
	C121	QCYA1HK-222	CAPACITOR	0.0022μF,50V
	C122	QCYA1HK-222	CAPACITOR	0.0022μF,50V
	C123	QCTA1CH-9R0	CAPACITOR	9pF,16V
	C124	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C125	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C126	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C127	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C128	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C130	QEE81VM-474	TANTAL CAPACITOR	0.47μF,35V
	C131	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C132	QEE81VM-474	TANTAL CAPACITOR	0.47μF,35V
	C133	QEE81VM-474	TANTAL CAPACITOR	0.47μF,35V
	C134	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C135	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C136	QEE81VM-474	TANTAL CAPACITOR	0.47μF,35V
	C137	QCYA1EK-103	CAPACITOR, BR-S800	0.01μF,25V
	C137	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C138	QCTA1CH-101	CAPACITOR	100pF,16V
	C139	QCTA1CH-101	CAPACITOR	100pF,16V
	C140	QCTA1CH-101	CAPACITOR	100pF,16V
	C141	QCTA1CH-101	CAPACITOR	100pF,16V
	C142	QCTA1CH-100	CAPACITOR	10pF,16V
	C143	QCTA1CH-100	CAPACITOR	10pF,16V
	C146	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
	C147	QCFA1EZ-104	CAPACITOR, BR-S800	0.1μF,25V
	C148	QCF31HP-103	CAPACITOR, BR-S800	0.01μF,50V
	C149	QCBB1HJ-820	CAPACITOR, BR-S800	82pF,50V
	C150	QCBB1HJ-820	CAPACITOR, BR-S800	82pF,50V
	C151	QCSB1HJ-560	CAPACITOR, BR-S800	56pF,50V
	C152	QCC11EJ-123	CAPACITOR, BR-S800	0.012μF,25V
	C153	QCS31HJ-820	CAPACITOR, BR-S800	82pF,50V
	C155	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C156	QCFA1EZ-104	CAPACITOR, BR-S800	0.1μF,25V
	C157	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
	C158	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C159	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C161	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C162	QETC1CM-476	E CAPACITOR	47μF,16V
	C171	QCTA1CH-101	CAPACITOR, BR-S800	100pF,16V
	L101	YU41134-1R0MY	COIL	1μH
	L102	YU41134-101J	COIL	100μH
	L103	YU41134-101J	COIL	100μH
	L104	PU48530-100J	COIL	10μH
	L105	YU41134-101J	COIL, BR-S800	100μH
	L106	PU48530-560J	COIL, BR-S800	56μH
	L107	PU48530-3R3J	COIL, BR-S800	3.3μH

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	K1	PU60281-2Z	FERRATE BEADS, ×2(K1,K2)
⚠	K101	PU60281-2Z	FERRATE BEADS
⚠	K102	PU60281-2Z	FERRATE BEADS
⚠	K104	PU60281-2Z	FERRATE BEADS
⚠	K105	PU60281-2Z	FERRATE BEADS
⚠	K106	PU60281-2Z	FERRATE BEADS, BR-S800
⚠	K107	PU60281-2Z	FERRATE BEADS
⚠	K108	PU60281-2Z	FERRATE BEADS, BR-S800
⚠	T101	PU56175	S.TRANS, BR-S800
	BKT1	PRD44235	BOARD BRACKET, ×2
	SCW1	DPSP2608Z	SCREW, ×2
	SCW2	WBS2600N	WASHER, ×2
	SLD1	PQ33493	SHIELDE CASE, BR-S800
	SLD2	PQ33494	SHIELDE COVER, BR-S800
	SLD3	PRS40034	SHIELD CASE
	TP1	SQMX001-001Z	TEST PIN, ×7:BR-S800 ×6:BR-S500
	CN1	PU59555-103	CONNECTOR
	CN2	PU59555-104	CONNECTOR
	CN2	PU59555-106	CONNECTOR, BR-S800
	CN3	PU56258-14	CONNECTOR
	CN5	PU59555-106	CONNECTOR
	CN6	PU59555-114	CONNECTOR

BURST ADD BOARD ASSEMBLY <15>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK20276A-01	BURST ADD BOARD ASSY	
	IC502	NJM2234M	IC	
	IC503	TC74HC4538AF	IC	
	IC504	NJM567M	IC	
	IC505	TC7S04F	IC	
	Q501	2SC2412K(RS)	TRANSISTOR	
	Q502	2SA1037K(QR)	TRANSISTOR	
	Q507	2SC2412K(RS)	TRANSISTOR	
	Q508	2SC2412K(RS)	TRANSISTOR	
	Q509	2SC2412K(RS)	TRANSISTOR	
	Q510	2SC2412K(RS)	TRANSISTOR	
	Q511	DTC144EK	TRANSISTOR	
	Q512	DTC144EK	TRANSISTOR	
	Q513	DTC144EK	TRANSISTOR	
	D501	DAN202K	DIODE	
	R501	NVP1415-102N	V RESISTOR	1kΩ,1/4W
	R502	NVP1415-102N	V RESISTOR	1kΩ,1/4W
	R503	NVP1415-502N	V RESISTOR	5kΩ,1/4W
	R511	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
	R512	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
	R513	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R514	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R515	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R525	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
	R526	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R527	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R528	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R529	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R530	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R531	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R532	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R533	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R534	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R535	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R536	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
	R537	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
	R538	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R539	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R540	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R541	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
	R542	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	C501	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C502	QCTA1CH-470	CAPACITOR	47pF,16V
	C507	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C508	QCTA1CH-121	CAPACITOR	120pF,16V
	C509	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C510	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C511	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C512	QCTA1CH-471	CAPACITOR	470pF,16V
	C513	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C514	QCYA1HK-153	CAPACITOR	0.015μF,50V
	C515	NEE21CM-225RY	TANTAL CAPACITOR	2.2μF,16V
	C516	NEE21EM-105RY	TANTAL CAPACITOR	1μF,25V
	C517	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C518	NFV41CJ-103AY	CAPACITOR	0.01μF,16V
	C519	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C520	NEE21AM-476RZ	TANTAL CAPACITOR	47μF,10V
	L502	PU58201-180J	COIL	18μH
	L503	YU41134-101J	COIL	100μH
	TP1	SCV1880-001	TEST PIN, ×4	
	CN501	PGZ00724-11	CONNECTOR	
	CN502	PGZ00724-10	CONNECTOR	

FM AUDIO BOARD ASSEMBLY <20>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK10171A-01	FM AUDIO BOARD ASSY, BR-S800	
PWBA	PRK10171B-01	FM AUDIO BOARD ASSY, BR-S500	
IC1	M5278D05	IC	
IC2	JCP0038	IC	
IC3	TC4052BF	IC	
IC4	TC4052BF	IC	
IC5	M51132L	IC	
IC6	M5218AFP-XE1	IC	
IC7	TL082CPS	IC	
IC8	AN6041	IC, BR-S800	
IC9	M37451E8-505FP	IC(DRY), BR-S800	
IC9	M37451E8-504FP	IC(DRY), BR-S500	
IC10	BR24C01AF	IC	
IC11	M62353GP	IC	
IC12	M62353GP	IC	
IC13	TC4051BF	IC	
IC14	M5218AFP-XE1	IC	
IC15	M5218AFP-XE1	IC	
IC19	M5218AFP-XE1	IC, BR-S800	
Q1	2SD973AR	TRANSISTOR	
Q2	2SK208	FE TRANSISTOR	
Q3	2SK208	FE TRANSISTOR	
Q4	2SC2412K	TRANSISTOR, BR-S800	
Q5	2SA1037K	TRANSISTOR, BR-S800	
Q6	2SC2412K	TRANSISTOR, BR-S800	
Q7	DTC124EK	TRANSISTOR	
Q8	DTC124EK	TRANSISTOR	
Q9	DTC124EK	TRANSISTOR	
Q10	DTC124EK	TRANSISTOR	
Q11	DTC323TK	TRANSISTOR	
Q12	DTC124EK	TRANSISTOR	
Q13	DTC124EK	TRANSISTOR	
Q14	2SC2412K(RS)	TRANSISTOR	
Q15	DTA124EK	TRANSISTOR	
Q17	DTC124EK	TRANSISTOR, BR-S800	
Q18	DTA124EK	TRANSISTOR, BR-S800	
Q19	DTA124EK	TRANSISTOR, BR-S800	
Q20	DTC124EK	TRANSISTOR	
Q21	DTC323TK	TRANSISTOR	
Q22	DTA124EK	TRANSISTOR	
D1	DA204K	DIODE	
D2	DA204K	DIODE	
D3	DA204K	DIODE	
D4	RD5.1ES-T1B1	ZENER DIODE	
DA1	DA204K	DIODE	
R1	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R2	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R3	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R4	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R7	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R8	QRSA08J-274YN	RESISTOR	270kΩ,1/10W
R9	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R10	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R11	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R12	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R13	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R14	QRSA08J-303YN	RESISTOR	30kΩ,1/10W
R16	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R17	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R18	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R19	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R20	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R21	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R22	QRSA08J-333YN	RESISTOR, BR-S800	33kΩ,1/10W
R23	QRSA08J-123YN	RESISTOR, BR-S800	12kΩ,1/10W
R24	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R25	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R26	QRSA08J-391YN	RESISTOR, BR-S800	390Ω,1/10W
R27	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R28	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R29	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W
R30	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R31	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R32	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R37	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R38	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R39	QRSA08J-511YN	RESISTOR	510Ω,1/10W
R40	QRSA08J-511YN	RESISTOR	510Ω,1/10W
R41	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R42	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R43	QRSA08J-513YN	RESISTOR	51kΩ,1/10W
R44	QRSA08J-513YN	RESISTOR	51kΩ,1/10W
R45	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R46	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R47	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R48	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R49	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R50	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R51	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R52	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R53	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R54	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R55	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R56	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R57	QVPC625-103Z	V RESISTOR	10kΩ
R58	QVPC625-682Z	V RESISTOR	6.8kΩ
R59	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R60	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R61	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R62	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R63	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R64	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R65	QRSA08J-123YN	RESISTOR, BR-S800	12kΩ,1/10W
R66	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R67	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R68	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R71	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R72	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R73	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R74	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R75	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R76	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R77	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R78	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R79	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R80	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R81	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R82	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R83	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R84	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R85	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R86	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R87	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R88	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R89	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R101	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R102	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R103	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R105	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R106	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R107	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R108	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R109	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R111	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R112	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R113	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R114	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R115	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R116	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R117	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R118	QRSA08J-103YN	RESISTOR, BR-S800	10kΩ,1/10W
R119	QRSA08J-473YN	RESISTOR, BR-S800	47kΩ,1/10W
R120	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R121	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R122	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R123	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R124	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R125	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R126	NRVA62D-563N	RESISTOR	56kΩ,1/16W
R127	NRVA62D-123N	RESISTOR	12kΩ,1/16W
R128	NRVA62D-272N	RESISTOR	2.7kΩ,1/16W
R129	NRVA62D-151N	CMF RESISTOR	150Ω,1/16W
R131	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R132	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R133	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R134	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R135	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R136	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R137	NRVA62D-393N	RESISTOR	39kΩ,1/16W
R138	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R139	QRSA08J-104YN	RESISTOR	100kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R140	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R141	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R142	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R143	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R144	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R145	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R146	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R147	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R148	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R201	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R202	QRSA08J-683YN	RESISTOR, BR-S800	68kΩ,1/10W
R203	QRSA08J-273YN	RESISTOR, BR-S800	27kΩ,1/10W
R204	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R205	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R206	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R207	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R208	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R209	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R211	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R212	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R213	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W
R214	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W
R215	NRVA62D-123N	RESISTOR	12kΩ,1/16W
R216	NRVA62D-123N	RESISTOR	12kΩ,1/16W
R217	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
C1	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C2	QCYA1HK-103	CAPACITOR	0.01μF,50V
C3	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C4	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C5	QCYA1HK-103	CAPACITOR	0.01μF,50V
C6	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C7	QCYA1HK-103	CAPACITOR	0.01μF,50V
C8	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C9	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C11	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C12	QETC0JM-107ZE	E CAPACITOR	100μF,6.3V
C13	QETC0JM-107ZE	E CAPACITOR	100μF,6.3V
C14	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C15	QCYA1HK-103	CAPACITOR	0.01μF,50V
C16	QCYA1HK-473	CAPACITOR	0.047μF,50V
C17	QCYA1HK-103	CAPACITOR	0.01μF,50V
C18	QETC1HM-104	E CAPACITOR	0.1μF,50V
C19	QCTA1CH-471	CAPACITOR	470pF,16V
C20	QCTA1CH-561	CAPACITOR	560pF,16V
C21	QCYA1EK-104	CAPACITOR	0.1μF,25V
C22	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C25	QETC1CM-476ZE	E CAPACITOR, BR-S800	47μF,16V
C26	QCTA1CH-101	CAPACITOR, BR-S800	100pF,16V
C27	QCYA1HK-223	CAPACITOR, BR-S800	0.022μF,50V
C28	QCTA1CH-121	CAPACITOR, BR-S800	120pF,16V
C29	QETC1CM-476	E CAPACITOR, BR-S800	47μF,16V
C30	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
C31	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
C32	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
C33	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V

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#△	REF No.	PART No.	PART NAME, DESCRIPTION
	C35	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C36	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C37	QETC1CM-336ZE	E CAPACITOR 33 μ F,16V
	C38	QETC1CM-336ZE	E CAPACITOR 33 μ F,16V
	C39	QFN31HJ-473	M CAPACITOR 0.047 μ F,50V
	C40	QFN31HJ-473	M CAPACITOR 0.047 μ F,50V
	C41	QETC1HM-225ZE	E CAPACITOR 2.2 μ F,50V
	C42	QETC1HM-225ZE	E CAPACITOR 2.2 μ F,50V
	C43	QFN31HJ-333	M CAPACITOR 0.033 μ F,50V
	C44	QFN31HJ-333	M CAPACITOR 0.033 μ F,50V
	C45	QETC1CM-106ZE	E CAPACITOR 10 μ F,16V
	C46	QETC1CM-106ZE	E CAPACITOR 10 μ F,16V
	C47	QETC1CM-227ZE	E CAPACITOR 220 μ F,16V
	C48	QETC1CM-227ZE	E CAPACITOR 220 μ F,16V
	C49	QETC1HM-225ZE	E CAPACITOR 2.2 μ F,50V
	C50	QETC1HM-225ZE	E CAPACITOR 2.2 μ F,50V
	C51	QFN31HJ-103	M CAPACITOR 0.01 μ F,50V
	C52	QFN31HJ-103	M CAPACITOR 0.01 μ F,50V
	C53	QETC1CM-107ZE	E CAPACITOR 100 μ F,16V
	C54	QETC1CM-107ZE	E CAPACITOR 100 μ F,16V
	C55	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C56	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C57	QCYA1HK-102	CAPACITOR 0.001 μ F,50V
	C58	QCYA1HK-102	CAPACITOR 0.001 μ F,50V
	C59	QFN31HJ-822	M CAPACITOR 0.0082 μ F,50V
	C60	QFN31HJ-822	M CAPACITOR 0.0082 μ F,50V
	C61	QFN31HJ-104	M CAPACITOR 0.1 μ F,50V
	C62	QFN31HJ-104	M CAPACITOR 0.1 μ F,50V
	C63	QFN31HJ-223	M CAPACITOR 0.022 μ F,50V
	C64	QFN31HJ-223	M CAPACITOR 0.022 μ F,50V
	C65	QCTA1CH-821	CAPACITOR 820pF,16V
	C66	QCTA1CH-821	CAPACITOR 820pF,16V
	C67	QFN31HJ-392	M CAPACITOR 0.0039 μ F,50V
	C68	QFN31HJ-392	M CAPACITOR 0.0039 μ F,50V
	C69	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C70	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C71	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C72	QENC1EM-475	CAPACITOR 4.7 μ F,25V
	C73	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C74	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C75	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C76	QCYA1HK-103	CAPACITOR 0.01 μ F,50V
	C77	QENC1CM-106	E CAPACITOR 10 μ F,16V
	C78	QENC1CM-106	E CAPACITOR 10 μ F,16V
	C79	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C80	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C81	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C82	QETC1CM-226ZE	E CAPACITOR 22 μ F,16V
	C83	QETC1EM-475ZE	E CAPACITOR 4.7 μ F,25V
	C84	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C85	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C86	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C87	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C88	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C89	QCYA1HK-222	CAPACITOR, BR-S800 0.0022 μ F,50V
	C90	QCYA1HK-222	CAPACITOR, BR-S800 0.0022 μ F,50V
	C91	QCYA1HK-222	CAPACITOR, BR-S800 0.0022 μ F,50V
	C92	QCYA1HK-222	CAPACITOR, BR-S800 0.0022 μ F,50V
	C93	QCYA1HK-103	CAPACITOR, BR-S800 0.01 μ F,50V
	C94	QCYA1HK-103	CAPACITOR, BR-S800 0.01 μ F,50V
	C95	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C96	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C97	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C98	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C101	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C102	QCTA1CH-470	CAPACITOR 47pF,16V
	C103	QCTA1CH-270	CAPACITOR 27pF,16V
	C104	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C105	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C106	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C107	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C108	QCYA1EK-104	CAPACITOR 0.1 μ F,25V
	C109	QETC1CM-226ZE	E CAPACITOR, BR-S800 22 μ F,16V
	C110	QCTA1CH-221	CAPACITOR, BR-S800 220pF,16V
	C111	QCYA1HK-103	CAPACITOR, BR-S800 0.01 μ F,50V
	C114	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C115	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C116	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C117	QENC1CM-106	NP E CAPACITOR 10 μ F,16V
	C119	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C120	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C121	QCTA1CH-100	CAPACITOR 10pF,16V
	C122	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C123	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C124	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C125	QCFA1CZ-224	CAPACITOR 0.22 μ F,16V
	C126	QCFA1CZ-224	CAPACITOR 0.22 μ F,16V
	C127	QCFA1CZ-224	CAPACITOR 0.22 μ F,16V
	C129	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C130	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C131	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C133	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C134	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C135	QCYA1HK-272	CAPACITOR 0.0027 μ F,50V
	C136	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C137	QCYA1HK-102	CAPACITOR 0.001 μ F,50V
	C168	QETC1CM-476ZE	E CAPACITOR 47 μ F,16V
	C169	QETC1CM-476	E CAPACITOR 47 μ F,16V
	C201	QETC1CM-106	E CAPACITOR 10 μ F,16V
	C202	QETC1CM-106	E CAPACITOR 10 μ F,16V
	L1	PU30284-1R	COIL 100 μ H
	L2	PU30284-1R	COIL 100 μ H
	L3	PU48530-331J	COIL 330 μ H
	L5	PU48530-331J	COIL 330 μ H
	L6	PU48530-331J	COIL 330 μ H
	BPF1	PU60610	BPF(1.4MHZ)
	BPF2	PU60611	BPF(1.8MHZ)
△	X1	PEVB0335	CRYSTAL RESONATOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	CL1	PGZ01978	MINI CLAMP, BR-S800
	HD1	PU60521	BOARD HOLDER, × 2
	HD2	PU60522	BOARD HOLDER
	SPC1	PGZ01128-02	SPACER, × 2
	TP1	SQMX001-001Z	TEST PIN, × 6
	CN1	PGZ01937-44	MALE CONNECTOR
	CN2	PU59555-4	CONNECTOR, BR-S500
	CN2	PU59555-6	CONNECTOR, BR-S800
	CN3	PU59973-18	CONNECTOR, BR-S800
	CN4	PU59973-30	CONNECTOR
	CN5	PU59973-30	CONNECTOR

N. AUDIO BOARD ASSEMBLY, BR-S800 <21>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PRK20274A-03	NORMAL AUDIO BOARD ASSY
	IC1	BA7765AS	IC
		or XRA7765AS	IC
	IC2	BA7765AS	IC
		or XRA7765AS	IC
	IC3	CXA1101P	IC
	IC4	CXA1101P	IC
	IC5	M5218AP	IC
	IC6	M5218AP	IC
	IC7	M51132L	IC
	IC8	M51132L	IC
	IC9	M51132L	IC
	IC10	M51132L	IC
	IC11	TC4053BP	IC
	IC201	NJM4560D	IC
	IC202	M5218AP	IC
	IC301	TC4066BP	IC
	IC302	M5218AP	IC
	IC303	M5218AP	IC
	IC304	UPC393C	IC
	IC305	M5278L09	IC
	Q1	2SD973R	TRANSISTOR
	Q2	DTC124EK	TRANSISTOR
	Q3	DTC124EK	TRANSISTOR
	Q4	DTC124EK	TRANSISTOR
	Q5	2SC2412K(QR)	TRANSISTOR
	Q6	DTC124EK	TRANSISTOR
	Q7	DTC124EK	TRANSISTOR
	Q8	DTC124EK	TRANSISTOR
	Q9	DTA124EK	TRANSISTOR
	Q10	DTA124EK	TRANSISTOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	Q11	DTC323TK	TRANSISTOR
	Q12	DTC323TK	TRANSISTOR
	Q13	DTC323TK	TRANSISTOR
	Q14	DTC323TK	TRANSISTOR
	Q15	DTC124EK	TRANSISTOR
	Q16	DTC124EK	TRANSISTOR
	Q17	DTA124EK	TRANSISTOR
	Q18	DTA124EK	TRANSISTOR
	Q19	DTC323TK	TRANSISTOR
	Q20	DTC323TK	TRANSISTOR
	Q21	DTC323TK	TRANSISTOR
	Q22	DTC323TK	TRANSISTOR
	Q201	2SD638R,S	TRANSISTOR
	Q202	2SD638R,S	TRANSISTOR
	Q203	2SA1037K	TRANSISTOR
	Q204	2SA1037K	TRANSISTOR
	Q205	2SC2412K	TRANSISTOR
	Q206	2SC2412K	TRANSISTOR
	Q207	2SC2412K	TRANSISTOR
	Q208	2SC2412K	TRANSISTOR
	Q213	2SA1037K	TRANSISTOR
	Q214	2SA1037K	TRANSISTOR
⚠	Q215	2SB643R,S	TRANSISTOR
⚠	Q216	2SB643R,S	TRANSISTOR
	Q217	2SC2412K	TRANSISTOR
	Q218	2SC2412K	TRANSISTOR
⚠	Q219	2SD638R,S	TRANSISTOR
⚠	Q220	2SD638R,S	TRANSISTOR
	Q221	2SC2412K	TRANSISTOR
	Q222	2SC2412K	TRANSISTOR
	Q223	2SC2412K	TRANSISTOR
	Q224	2SC2412K	TRANSISTOR
	Q225	2SC2412K	TRANSISTOR
	Q226	2SC2412K	TRANSISTOR
	Q227	2SC2412K	TRANSISTOR
	Q228	2SC2412K	TRANSISTOR
	Q229	DTA124EK	TRANSISTOR
	Q230	DTA124EK	TRANSISTOR
	Q231	DTC124EK	TRANSISTOR
	Q232	DTC124EK	TRANSISTOR
	Q233	2SC2412K	TRANSISTOR
	Q234	2SC2412K	TRANSISTOR
	Q302	DTA124EK	TRANSISTOR
	Q303	DTC323TK	TRANSISTOR
	Q305	DTA124EK	TRANSISTOR
	Q306	DTC323TK	TRANSISTOR
	Q307	2SC2412K	TRANSISTOR
	D1	ERA15-02PNLB	DIODE
	D201	RD5.6ES-T1B2	ZENER DIODE
	D202	RD5.6ES-T1B2	ZENER DIODE
	D302	DA204K	DIODE
	DA201	DA204K	DIODE

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R1	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R2	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R3	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R4	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R5	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R6	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R7	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R9	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R10	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R11	QRSA08J-124YN	RESISTOR	120kΩ,1／10W
R12	QRSA08J-124YN	RESISTOR	120kΩ,1／10W
R13	QRSA08J-432YN	RESISTOR	4.3kΩ,1／10W
R14	QRSA08J-432YN	RESISTOR	4.3kΩ,1／10W
R15	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R16	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R17	QRSA08J-124YN	RESISTOR	120kΩ,1／10W
R18	QRSA08J-124YN	RESISTOR	120kΩ,1／10W
R21	QRSA08J-822YN	RESISTOR	8.2kΩ,1／10W
R22	QRSA08J-822YN	RESISTOR	8.2kΩ,1／10W
R23	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R24	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R25	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R26	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R27	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R28	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R29	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R30	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R31	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R32	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R33	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R34	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R35	QRSA08J-332YN	RESISTOR	3.3kΩ,1／10W
R36	QRSA08J-332YN	RESISTOR	3.3kΩ,1／10W
R37	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R38	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R39	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R40	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R41	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R42	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R43	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R44	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R45	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R46	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R47	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R48	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R49	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R50	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R51	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R52	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R53	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R54	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R55	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R56	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R57	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R58	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R59	QRSA08J-202YN	RESISTOR	2kΩ,1／10W
R60	QRSA08J-202YN	RESISTOR	2kΩ,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R61	QRSA08J-820YN	RESISTOR	82Ω,1／10W
R62	QRSA08J-820YN	RESISTOR	82Ω,1／10W
R63	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R64	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R65	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R66	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R67	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R68	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R71	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R72	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R73	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R74	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R75	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R76	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R77	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R78	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R79	QRSA08J-433YN	RESISTOR	43kΩ,1／10W
R80	QRSA08J-433YN	RESISTOR	43kΩ,1／10W
R81	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R82	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R83	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R84	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R85	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R86	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R87	QRSA08J-564YN	RESISTOR	560kΩ,1／10W
R88	QRSA08J-564YN	RESISTOR	560kΩ,1／10W
R89	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R90	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R91	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R92	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R93	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R94	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R99	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R100	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R101	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R102	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R103	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R104	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R105	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R106	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R107	QRSA08J-271YN	RESISTOR	270Ω,1／10W
R108	QRSA08J-271YN	RESISTOR	270Ω,1／10W
R109	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R110	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R111	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R112	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R115	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R116	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R117	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R118	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R119	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R121	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R122	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R123	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R124	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R126	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R127	QRSA08J-123YN	RESISTOR	12kΩ,1／10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R128	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
	R130	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R201	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R202	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R203	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R204	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R205	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
	R206	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
	R207	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
	R208	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
	R209	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
	R210	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
⚠	R213	QRZ0054-180	FUSIBLE RESISTOR	18Ω
⚠	R214	QRZ0054-180	FUSIBLE RESISTOR	18Ω
	R215	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R216	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R217	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R218	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R219	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R220	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R221	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
	R222	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
	R223	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R224	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R225	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R226	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R227	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R228	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R229	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R230	QRSA08J-221YN	RESISTOR	220Ω,1/10W
	R231	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R232	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R233	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R234	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
⚠	R235	QRD161J-1R0	FUSIBLE RESISTOR	1Ω,1/6W
⚠	R236	QRD161J-1R0	FUSIBLE RESISTOR	1Ω,1/6W
⚠	R237	QRD161J-1R0	FUSIBLE RESISTOR	1Ω,1/6W
⚠	R238	QRD161J-1R0	FUSIBLE RESISTOR	1Ω,1/6W
⚠	R239	QRZ0054-120	FUSIBLE RESISTOR	12Ω
⚠	R240	QRZ0054-120	FUSIBLE RESISTOR	12Ω
	R245	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R246	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R247	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R248	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R249	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R250	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R251	QRSA08J-824YN	RESISTOR	820kΩ,1/10W
	R252	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R253	QRSA08J-912YN	RESISTOR	9.1kΩ,1/10W
	R254	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R255	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R256	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R257	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
	R258	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
	R259	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
	R260	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R262	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
	R263	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
	R264	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
	R265	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
	R267	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R268	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R269	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
	R270	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
	R271	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R272	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R273	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R274	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R275	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R276	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R277	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
	R278	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
	R279	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R280	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R281	QRSA08J-2R2YN	THERMISTOR	
	R282	QRSA08J-2R2YN	THERMISTOR	
	R283	QRSA08J-181YN	RESISTOR	180Ω,1/10W
	R284	QRSA08J-181YN	RESISTOR	180Ω,1/10W
	R285	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R286	QRSA08J-2R2YN	RESISTOR	2.2Ω,1/10W
	R287	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
	R288	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
	R289	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
	R290	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
	R291	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R292	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R301	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R302	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R303	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R304	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
	R305	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
	R306	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
	R307	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R308	QRSA08J-685YN	RESISTOR	6.8MΩ,1/10W
	R309	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R310	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R311	QRSA08J-331YN	RESISTOR	330Ω,1/10W
	R312	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R315	NRVA62D-823N	RESISTOR	82kΩ,1/16W
	R316	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
	R317	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R318	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R319	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
	R320	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R321	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
	R322	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
	R323	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
	R324	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R325	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
	R326	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
	R327	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
	R328	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R329	QRSA08J-104YN	RESISTOR	100kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R330	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R331	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R332	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R333	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R334	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R335	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R336	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R337	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R338	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R341	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R342	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R343	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R344	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R345	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
C1	QCYA1HK-103	CAPACITOR	0.01μF,50V
C2	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C3	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C4	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C5	QCYA1HK-103	CAPACITOR	0.01μF,50V
C6	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C7	QENC1CM-106	NP E CAPACITOR	10μF,16V
C9	QENC1CM-106	NP E CAPACITOR	10μF,16V
C10	QENC1CM-106	NP E CAPACITOR	10μF,16V
C11	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C12	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C13	QEBA1EM-475	E CAPACITOR	4.7μF,25V
C14	QEBA1EM-475	E CAPACITOR	4.7μF,25V
C15	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C16	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C17	QCTA1CH-101	CAPACITOR	100pF,16V
C18	QCTA1CH-101	CAPACITOR	100pF,16V
C19	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C20	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C21	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C22	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C23	QCTA1CH-331	CAPACITOR	330pF,16V
C24	QCTA1CH-331	CAPACITOR	330pF,16V
C25	QCTA1CH-331	CAPACITOR	330pF,16V
C26	QCTA1CH-331	CAPACITOR	330pF,16V
C27	QENC1CM-106	NP E CAPACITOR	10μF,16V
C28	QENC1CM-106	NP E CAPACITOR	10μF,16V
C29	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C30	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C31	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C32	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C33	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C34	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C35	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C36	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C37	QENC1CM-106	NP E CAPACITOR	10μF,16V
C38	QENC1CM-106	NP E CAPACITOR	10μF,16V
C39	QCTA1CH-101	CAPACITOR	100pF,16V
C40	QCTA1CH-101	CAPACITOR	100pF,16V
C41	QCTA1CH-101	CAPACITOR	100pF,16V
C42	QCTA1CH-101	CAPACITOR	100pF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C43	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C44	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C45	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C46	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C47	QENC1CM-106	NP E CAPACITOR	10μF,16V
C48	QENC1CM-106	NP E CAPACITOR	10μF,16V
C49	QRD161J-0R0	RESISTOR	0Ω,1/6W
C50	QRD161J-0R0	RESISTOR	0Ω,1/6W
C51	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C52	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C53	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C54	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C55	QETC1HM-475ZE	E CAPACITOR	4.7μF,50V
C56	QETC1HM-475ZE	E CAPACITOR	4.7μF,50V
C57	QFN31HJ-473	E CAPACITOR	0.047μF,50V
C58	QFN31HJ-473	E CAPACITOR	0.047μF,50V
C59	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C60	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C61	QETC1CM-336ZE	E CAPACITOR	33μF,16V
C62	QETC1CM-336ZE	E CAPACITOR	33μF,16V
C63	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C64	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C65	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C66	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C67	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C68	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C69	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C70	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C71	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C72	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C73	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C74	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C75	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C76	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C77	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C78	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C79	NEE21VM-684RY	TANTAL CAPACITOR	0.68μF,35V
C80	NEE21VM-684RY	TANTAL CAPACITOR	0.68μF,35V
C81	QENC1CM-106	NP E CAPACITOR	10μF,16V
C82	QENC1CM-106	NP E CAPACITOR	10μF,16V
C83	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C84	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C85	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C86	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C87	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C88	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C89	QENC1CM-106	NP E CAPACITOR	10μF,16V
C90	QENC1CM-106	NP E CAPACITOR	10μF,16V
C91	QCTA1CH-101	CAPACITOR	100pF,16V
C92	QCTA1CH-101	CAPACITOR	100pF,16V
C95	QETC1HM-224ZE	E CAPACITOR	0.22μF,50V
C96	QETC1HM-224ZE	E CAPACITOR	0.22μF,50V
C97	QFN31HJ-123	M CAPACITOR	0.012μF,50V
C98	QFN31HJ-123	M CAPACITOR	0.012μF,50V
C99	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C100	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C101	QENC1CM-106	NP E CAPACITOR	10μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C102	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C105	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C106	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C109	QETC1CM-106ZE	E CAPACITOR	10 μ F,16V
	C110	QETC1CM-106ZE	E CAPACITOR	10 μ F,16V
	C111	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C112	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C113	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C114	QCF81CZ-105	CAPACITOR	1 μ F,16V
	C115	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C116	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C117	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C118	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C119	QCSA1HJ-821	CAPACITOR	820pF,50V
	C120	QCSA1HJ-821	CAPACITOR	820pF,50V
	C121	QCTA1CH-101	CAPACITOR	100pF,16V
	C122	QCTA1CH-101	CAPACITOR	100pF,16V
	C123	QCYA1HK-392	CAPACITOR	0.0039 μ F,50V
	C124	QCYA1HK-392	CAPACITOR	0.0039 μ F,50V
	C126	QCYA1HK-473	CAPACITOR	0.047 μ F,50V
	C201	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C202	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C203	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C204	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C205	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C206	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C207	QFP32AJ-102	PP CAPACITOR	0.001 μ F,100V
	C208	QFP32AJ-102	PP CAPACITOR	0.001 μ F,100V
	C209	QCT25CH-181	CAPACITOR	180pF
	C210	QCT25CH-181	CAPACITOR	180pF
	C211	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C212	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C213	QCTA1CH-221	CAPACITOR	220pF,16V
	C214	QCTA1CH-221	CAPACITOR	220pF,16V
	C215	QCTA1CH-221	CAPACITOR	220pF,16V
	C216	QCTA1CH-221	CAPACITOR	220pF,16V
	C217	QFP32AJ-123	PP CAPACITOR	0.012 μ F,100V
	C218	QFP32AJ-123	PP CAPACITOR	0.012 μ F,100V
	C219	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C220	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C221	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
	C222	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
	C223	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
	C224	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
	C227	QCYA1HK-223	CAPACITOR	0.022 μ F,50V
	C228	QCTA1CH-271	CAPACITOR	270pF,16V
	C229	QCTA1CH-271	CAPACITOR	270pF,16V
	C230	QCTA1CH-271	CAPACITOR	270pF,16V
	C231	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C232	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C233	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C234	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C235	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C236	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
	C237	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C239	QETC1CM-226	E CAPACITOR	22 μ F,16V
	C240	QETC1CM-226	E CAPACITOR	22 μ F,16V
	C243	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
	C244	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
	C301	QFN31HJ-153	M CAPACITOR	0.015 μ F,50V
	C302	QETC1AM-227	E CAPACITOR	220 μ F,10V
	C303	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C304	QFN31HJ-333	M CAPACITOR	0.033 μ F,50V
	C305	QCSA1HJ-122	CAPACITOR	0.0012 μ F,50V
	C306	QCSA1HJ-122	CAPACITOR	0.0012 μ F,50V
	C307	QFN31HJ-103	M CAPACITOR	0.01 μ F,50V
	C308	QCTA1CH-270	CAPACITOR	27pF,16V
	C309	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
	C310	QENC1CM-106	NP E CAPACITOR	10 μ F,16V
	C311	QETC1CM-226	E CAPACITOR	22 μ F,16V
	C312	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C313	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
	C314	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
	C315	QETC1CM-106	E CAPACITOR	10 μ F,16V
	C316	QEE81EM-105	NP E CAPACITOR	1 μ F,25V
	C317	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C318	QENC1EM-475	NP E CAPACITOR	4.7 μ F,25V
	C319	QETC1CM-106	E CAPACITOR	10 μ F,16V
	C320	QENC1EM-475	NP E CAPACITOR	4.7 μ F,25V
	C321	QETC1CM-227	E CAPACITOR	220 μ F,16V
	C322	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C326	QETC1CM-106	E CAPACITOR	10 μ F,16V
	C328	QETC1CM-476	E CAPACITOR	47 μ F,16V
	C329	QCTA1CH-101	CAPACITOR	100pF,16V
	L1	PGZ00917-822	COIL	
	L2	PGZ00917-822	COIL	
	L3	PGZ00917-822	COIL	
	L4	PGZ00917-822	COIL	
	L5	PGZ00917-472	COIL	
	L6	PGZ00917-472	COIL	
	L201	PU48530-3R9K	COIL	3.9 μ H
	L203	PU48530-330J	COIL	33 μ H
	L204	PU48530-330J	COIL	33 μ H
	L301	PGZ02044-222K	COIL	
	LPF1	PU60206	LOW PASS FILTER	
	LPF2	PU60206	LOW PASS FILTER	
	RY1	PU55260	RELAY	
⚠	TH1	ERT-D2FGL103S	THERMISTOR	
⚠	TH2	ERT-D2FGL103S	THERMISTOR	
⚠	TH3	ERT-D2FHL462S	THERMISTOR	
⚠	TH4	ERT-D2FHL462S	THERMISTOR	
⚠	TH201	ERT-D2FHL102S	THERMISTOR	
⚠	TH202	ERT-D2FHL102S	THERMISTOR	
⚠	T201	PGZ01859	TRANS, × 2(T201,T202)	

#△REF No.	PART No.	PART NAME, DESCRIPTION	
TP1	SQMX001-001Z	TEST PIN, ×10	
CN1	PU59555-3	CONNECTOR	
CN2	PU59555-3	CONNECTOR	
CN3	PU59973-18	CONNECTOR	
CN4	PU59973-30	CONNECTOR	
CN5	PU59973-30	CONNECTOR	
CN201	PU59555-4	CONNECTOR	

N. AUDIO BOARD ASSEMBLY, BR-S500 <22>

#△REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK10140B-07	NORMAL AUDIO BOARD ASSY	
IC1	M5220P	IC	
IC2	M5220P	IC	
IC3	M51132L	IC	
IC4	M51132L	IC	
IC5	CXA1101P	IC	
IC301	TC4066BP	IC	
IC302	M5218AP	IC	
IC303	UPC393C	IC	
Q2	DTC124EK	TRANSISTOR	
Q4	DTC323TK	TRANSISTOR	
Q9	DTC323TK	TRANSISTOR	
Q10	DTC323TK	TRANSISTOR	
Q11	2SD973AR	TRANSISTOR	
Q12	2SD973AR	TRANSISTOR	
Q13	DTA124EK	TRANSISTOR	
Q14	DTA124EK	TRANSISTOR	
Q15	DTC124EK	TRANSISTOR	
Q16	DTC124EK	TRANSISTOR	
Q301	2SD973AR	TRANSISTOR	
Q302	2SC2412K	TRANSISTOR	
R1	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R2	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R3	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R4	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R5	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R6	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R9	QRSA08J-155YN	RESISTOR	1.5MΩ,1/10W
R10	QRSA08J-155YN	RESISTOR	1.5MΩ,1/10W
R11	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R12	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R13	QRSA08J-432YN	RESISTOR	4.3kΩ,1/10W
R14	QRSA08J-432YN	RESISTOR	4.3kΩ,1/10W
R15	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R16	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R17	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R18	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R19	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R20	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R23	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R24	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R25	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R26	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R29	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R30	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R31	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R32	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R33	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R34	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R35	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R36	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R37	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R38	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R39	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R40	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R41	QRSA08J-202YN	RESISTOR	2kΩ,1/10W
R42	QRSA08J-202YN	RESISTOR	2kΩ,1/10W
R43	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R44	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R45	QRSA08J-433YN	RESISTOR	43kΩ,1/10W
R46	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R47	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R48	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R51	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R55	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R56	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R57	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R58	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R59	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R60	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R61	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R63	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R64	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R65	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R66	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R301	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R302	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R303	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R304	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R305	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R306	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R307	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R308	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R309	QRSA08J-685YN	RESISTOR	6.8MΩ,1/10W
R310	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R311	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R312	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R313	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R314	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R315	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R316	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R317	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R318	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R319	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R320	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R321	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R322	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R323	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R324	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R325	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R326	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R327	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R328	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R329	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R330	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R332	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
C1	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C2	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C5	QEBC1HM-105	E CAPACITOR	1μF,50V
C6	QEBC1HM-105	E CAPACITOR	1μF,50V
C7	QCTA1CH-101	CAPACITOR	100pF,16V
C8	QCTA1CH-101	CAPACITOR	100pF,16V
C9	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C10	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C11	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C12	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C13	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C14	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C15	QENC1CM-106	NP E CAPACITOR	10μF,16V
C16	QENC1CM-106	NP E CAPACITOR	10μF,16V
C17	QCYA1HK-103	CAPACITOR	0.01μF,50V
C18	QCYA1HK-103	CAPACITOR	0.01μF,50V
C19	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C20	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C21	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C22	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C23	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C24	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C25	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C26	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C27	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C28	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C29	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C30	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C31	QENC1EM-475ZE	E CAPACITOR	4.7μF,25V
C32	QENC1EM-475ZE	E CAPACITOR	4.7μF,25V
C33	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C34	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C35	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C36	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C37	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C38	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C39	NEE21VM-684RY	TANTAL CAPACITOR	0.68μF,35V
C40	NEE21VM-684RY	TANTAL CAPACITOR	0.68μF,35V
C41	QCYA1HK-103	CAPACITOR	0.01μF,50V
C42	QCYA1HK-103	CAPACITOR	0.01μF,50V
C43	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C44	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C45	QCYA1HK-103	CAPACITOR	0.01μF,50V
C46	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C47	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C48	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C49	QCYA1HK-103	CAPACITOR	0.01μF,50V
C50	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C53	QENC1CM-106ZE	E CAPACITOR	10μF,16V
C54	QENC1CM-106ZE	E CAPACITOR	10μF,16V
C55	QETC1CM-106	E CAPACITOR	10μF,16V
C56	QETC1CM-106	E CAPACITOR	10μF,16V
C57	QETC1CM-106	E CAPACITOR	10μF,16V
C58	QETC1CM-106	E CAPACITOR	10μF,16V
C59	QETC1CM-476	E CAPACITOR	47μF,16V
C61	QETC1CM-107	E CAPACITOR	100μF,16V
C62	QETC1CM-107	E CAPACITOR	100μF,16V
C63	QCTA1CH-101	CAPACITOR	100pF,16V
C64	QCTA1CH-101	CAPACITOR	100pF,16V
C301	QFN31HJ-153	M CAPACITOR	0.015μF,50V
C302	QETC1CM-227ZE	E CAPACITOR	220μF,16V
C303	QEBC1EM-475	E CAPACITOR	4.7μF,25V
C304	QENC1CM-106	NP E CAPACITOR	10μF,16V
C305	QETC1CM-226	E CAPACITOR	22μF,16V
C306	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C307	QETC1CM-106	E CAPACITOR	10μF,16V
C308	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C309	QETC1CM-227	E CAPACITOR	220μF,16V
C310	QETC1CM-107	E CAPACITOR	100μF,16V
C311	QCYA1HK-103	CAPACITOR	0.01μF,50V
C312	QETC1CM-107	E CAPACITOR	100μF,16V
C313	QETC1CM-476	E CAPACITOR	47μF,16V
C314	QCYA1HK-103	CAPACITOR	0.01μF,50V
C315	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C316	QCYA1HK-103	CAPACITOR	0.01μF,50V
C317	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C318	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C319	QCTA1CH-101	CAPACITOR	100pF,16V
L1	PU48530-271J	COIL, ×2(L1, L2, L301)	270μH
LPF1	PU60206	LOW PASS FILTER	
LPF2	PU60206	LOW PASS FILTER	
TH1	ERT-D2FHL462S	THERMISTOR	
TH2	ERT-D2FHL462S	THERMISTOR	
TP1	SQMX001-001Z	TEST PIN, ×5	
CN1	PU59555-3	CONNECTOR	
CN2	PU59555-3	CONNECTOR	
CN4	PU59973-30	CONNECTOR	
CN5	PU59973-30	CONNECTOR	

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AV I/O BOARD ASSEMBLY <23>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20267A-01	AV I/O BOARD ASSY, BR-S800
PWBA	PRK20267B-01	AV I/O BOARD ASSY, BR-S500
IC1	TC4053BF	IC
IC2	M5218AFP-XE1	IC
IC3	M5201FP	IC
IC4	M5201FP	IC
IC5	TC4052BF	IC
IC6	M5218AFP-XE1	IC
IC7	M50253P	IC
IC8	M5218AFP-XE1	IC
IC9	M5218AFP-XE1	IC
IC51	M5201FP	IC, BR-S800
IC52	M5201FP	IC, BR-S800
IC53	M5201FP	IC, BR-S800
IC54	M5201FP	IC, BR-S800
IC55	M5201FP	IC, BR-S800
IC201	M52684AP	IC
IC202	M35010-089SP	IC
IC301	MM1117XF	IC
IC302	AN607P	IC
IC303	SN16913P	IC
IC304	TC74HC4538AF	IC
IC305	AN607P	IC
IC306	SN16913P	IC
IC307	UPC319G2	IC
IC308	TC74HC04AF	IC
IC309	MM1111XF	IC
Q1	2SD973AR	TRANSISTOR
Q2	2SA1037K	TRANSISTOR
Q3	DTA124EK	TRANSISTOR
Q4	DTC323TK	TRANSISTOR
Q5	DTC323TK	TRANSISTOR
Q6	DTC323TK	TRANSISTOR
Q7	DTC323TK	TRANSISTOR
Q8	DTC323TK	TRANSISTOR
Q9	DTC323TK	TRANSISTOR
Q10	DTC323TK	TRANSISTOR
Q11	2SC2412K	TRANSISTOR
Q12	2SC2412K	TRANSISTOR
Q13	DTA124EK	TRANSISTOR
Q14	DTC323TK	TRANSISTOR
Q15	DTC323TK	TRANSISTOR
Q201	2SC2778(C)	TRANSISTOR
Q202	2SC2778(C)	TRANSISTOR
Q203	2SA1022(C)	TRANSISTOR
Q204	2SA1022(C)	TRANSISTOR
Q205	2SC2778(C)	TRANSISTOR
Q206	2SC2778(C)	TRANSISTOR
Q207	2SC2778(C)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q208	2SD601A(Q)	TRANSISTOR	
Q209	2SD601A(Q)	TRANSISTOR	
Q210	DTC144EK	TRANSISTOR	
Q301	2SA1037K(QR)	TRANSISTOR	
Q302	2SA1037K(QR)	TRANSISTOR	
Q303	2SC2412K(RS)	TRANSISTOR	
Q304	2SA1037K(QR)	TRANSISTOR	
Q305	2SC2412K(RS)	TRANSISTOR	
Q306	2SK621	FE TRANSISTOR	
Q307	2SK621	FE TRANSISTOR	
Q308	2SC2412K(RS)	TRANSISTOR	
Q309	2SC2412K(RS)	TRANSISTOR	
Q310	2SC2412K(RS)	TRANSISTOR	
Q311	2SK621	FE TRANSISTOR	
Q312	2SC2412K(RS)	TRANSISTOR	
Q313	2SC2412K(RS)	TRANSISTOR	
Q314	2SC2412K(RS)	TRANSISTOR	
Q315	2SA1037K(QR)	TRANSISTOR	
Q316	2SC2412K(RS)	TRANSISTOR	
Q317	2SK621	FE TRANSISTOR	
Q318	2SK621	FE TRANSISTOR	
Q319	2SC2412K(RS)	TRANSISTOR	
Q320	2SC2412K(RS)	TRANSISTOR	
Q321	2SK621	FE TRANSISTOR	
Q322	2SC2412K(RS)	TRANSISTOR	
Q323	2SC2412K(RS)	TRANSISTOR	
Q324	2SC2412K(RS)	TRANSISTOR	
Q325	2SC2412K(RS)	TRANSISTOR	
Q326	DTC144EK	TRANSISTOR	
Q327	DTC144EK	TRANSISTOR	
D1	DAN202K	DIODE	
D2	DAN202K	DIODE	
D3	DAN202K	DIODE	
D4	DAN202K	DIODE	
D201	DAN202K	DIODE	
D202	DAN202K	DIODE	
D301	DAN202K	DIODE	
D302	DAN202K	DIODE	
D303	DAN202K	DIODE	
D304	DAN202K	DIODE	
D305	DAN202K	DIODE	
R1	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R2	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R3	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R4	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R5	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R6	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R7	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R8	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R10	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R11	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R12	QRSA08J-823YN	RESISTOR	82kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R13	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R14	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R15	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R16	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R17	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R18	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R19	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R20	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R21	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R22	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R23	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R24	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R25	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R26	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R27	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R28	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R29	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R30	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R31	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R32	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R33	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R34	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R35	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R36	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R37	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R38	QRSA08J-433YN	RESISTOR	43kΩ,1/10W
R39	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R40	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R41	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R42	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R43	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R44	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R45	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R46	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R47	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R48	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R49	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R50	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R51	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R52	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R53	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R54	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R55	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R56	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R57	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R58	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R59	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R60	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R61	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R62	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R63	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R64	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R65	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R66	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R67	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R68	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R69	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R70	QRSA08J-181YN	RESISTOR	180Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R71	QVPC625-102Z	V RESISTOR	1kΩ
R72	QVPC625-102Z	V RESISTOR	1kΩ
R73	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R74	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R75	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R76	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R101	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R102	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R103	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R104	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R105	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R106	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R107	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R108	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R109	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R110	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R111	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R112	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R113	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R114	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R115	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R116	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R117	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R118	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R119	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R120	QRSA08J-682YN	RESISTOR, BR-S800	6.8kΩ,1/10W
R121	QRSA08J-154YN	RESISTOR, BR-S800	150kΩ,1/10W
R122	QRSA08J-154YN	RESISTOR, BR-S800	150kΩ,1/10W
R123	QRSA08J-154YN	RESISTOR, BR-S800	150kΩ,1/10W
R124	QRSA08J-154YN	RESISTOR, BR-S800	150kΩ,1/10W
R125	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R126	QRSA08J-102YN	RESISTOR, BR-S800	1kΩ,1/10W
R127	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R128	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
R129	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R130	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R131	QRSA08J-223YN	RESISTOR, BR-S800	22kΩ,1/10W
R132	QRSA08J-154YN	RESISTOR, BR-S800	150kΩ,1/10W
R201	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R202	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R203	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R204	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R205	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R206	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R207	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R208	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R209	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R210	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R211	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R212	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R213	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R214	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R215	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R216	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R217	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R218	QRG129J-820	OMF RESISTOR	82Ω,1/2W
R219	QRSA08J-330YN	RESISTOR	33Ω,1/10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R220	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R221	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R222	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R223	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R224	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R225	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R226	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R227	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R228	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R229	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R230	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R231	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R232	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R233	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R234	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R235	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R236	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R237	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R238	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R239	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R240	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R241	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R242	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R243	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R301	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R302	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R303	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R304	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R305	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R306	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R307	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R308	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R309	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R310	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R311	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R312	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R313	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R314	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R315	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R316	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R317	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R318	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R319	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R320	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R321	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R322	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R323	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R324	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R325	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R326	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R327	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R328	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R329	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R330	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R331	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R332	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R333	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R334	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R335	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R336	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R337	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R338	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R339	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R340	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R341	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R342	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R343	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R344	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R345	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R346	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R347	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R348	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R349	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R350	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R351	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R352	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R353	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R354	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R355	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R356	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R357	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R358	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R359	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R360	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R361	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R362	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R363	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R364	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R365	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R366	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R367	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R368	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R369	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R370	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R371	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R372	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R373	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R374	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R375	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R376	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R377	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R378	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R379	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R380	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R381	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R382	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R383	QRSA08J-471YN	RESISTOR	470Ω,1/10W
C1	QER61CM-476	E CAPACITOR	47μF,16V
C2	QER61CM-476	E CAPACITOR	47μF,16V
C3	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C4	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C5	QER61CM-476	E CAPACITOR	47μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C6	QER61CM-476	E CAPACITOR	47μF,16V
C7	QER61CM-226	E CAPACITOR	22μF,16V
C8	QER61CM-226	E CAPACITOR	22μF,16V
C9	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C10	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C11	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C12	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C13	QER61CM-226	E CAPACITOR	22μF,16V
C14	QER61CM-226	E CAPACITOR	22μF,16V
C15	QER61CM-226	E CAPACITOR	22μF,16V
C16	QER61CM-226	E CAPACITOR	22μF,16V
C17	QER61CM-476	E CAPACITOR	47μF,16V
C18	QER61CM-476	E CAPACITOR	47μF,16V
C19	QER61CM-476	E CAPACITOR	47μF,16V
C20	QETC1CM-107	E CAPACITOR	100μF,16V
C21	QETC1CM-107	E CAPACITOR	100μF,16V
C22	QCYA1HK-103	CAPACITOR	0.01μF,50V
C23	QETC1CM-107	E CAPACITOR	100μF,16V
C24	QETC1CM-107	E CAPACITOR	100μF,16V
C25	QER61CM-476	E CAPACITOR	47μF,16V
C26	QER61CM-226	E CAPACITOR	22μF,16V
C27	QER61CM-476	E CAPACITOR	47μF,16V
C28	QCYA1HK-103	CAPACITOR	0.01μF,50V
C29	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C30	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C31	QER61CM-226	E CAPACITOR	22μF,16V
C32	QER61CM-226	E CAPACITOR	22μF,16V
C33	QER61CM-106	E CAPACITOR	10μF,16V
C34	QER61CM-106	E CAPACITOR	10μF,16V
C35	QER61CM-475	E CAPACITOR	4.7μF,16V
C36	QER61CM-475	E CAPACITOR	4.7μF,16V
C37	QER61CM-476	E CAPACITOR	47μF,16V
C38	QER61CM-476	E CAPACITOR	47μF,16V
C39	QCYA1HK-333	CAPACITOR	0.033μF,50V
C40	QCYA1HK-333	CAPACITOR	0.033μF,50V
C51	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
C52	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
C53	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
C54	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
C55	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
C56	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
C57	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
C58	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
C59	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
C60	QEPC1CM-106	NP CAPACITOR, BR-S800	10μF,16V
C201	QER61CM-476	E CAPACITOR	47μF,16V
C202	QCYA1HK-223	CAPACITOR	0.022μF,50V
C203	QEK61CM-107	E CAPACITOR	100μF,16V
C205	QEPC1CM-106	NP E CAPACITOR	10μF,16V
C206	QCTA1CH-331	CAPACITOR	330pF,16V
C207	QETC1HM-335ZE	E CAPACITOR	3.3μF,50V
C208	QEK61CM-107	E CAPACITOR	100μF,16V
C209	QCTA1CH-101	CAPACITOR	100pF,16V
C210	QER61CM-476	E CAPACITOR	47μF,16V
C211	PU54990-3	E CAPACITOR	
C212	QER61AM-227	E CAPACITOR	220μF,10V
C213	QCYA1HK-223	CAPACITOR	0.022μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C214	QCTA1CH-220	CAPACITOR	22pF,16V
C215	QCYA1HK-152	CAPACITOR	0.0015μF,50V
C216	QCYA1HK-222	CAPACITOR	0.0022μF,50V
C217	QER61HM-105	E CAPACITOR	1μF,50V
C218	QCYA1HK-103	CAPACITOR	0.01μF,50V
C220	PU57672-500	TRIMMER CAPACITOR	50pF
C221	QCTA1CH-150	CAPACITOR	15pF,16V
C222	QCTA1CH-560	CAPACITOR	56pF,16V
C223	QER61CM-476	E CAPACITOR	47μF,16V
C224	QCYA1HK-223	CAPACITOR	0.022μF,50V
C225	QCTA1CH-100	CAPACITOR	10pF,16V
C226	PU57672-200	TRIMMER CAPACITOR	20pF
C227	QER61CM-476	E CAPACITOR	47μF,16V
C228	QCYA1HK-223	CAPACITOR	0.022μF,50V
C229	QCYA1HK-103	CAPACITOR	0.01μF,50V
C230	QCTA1CH-101	CAPACITOR	100pF,16V
C232	QCTA1CH-101	CAPACITOR	100pF,16V
C233	QCTA1CH-220	CAPACITOR	22pF,16V
C301	QCYA1HK-103	CAPACITOR	0.01μF,50V
C302	QER61CM-476	E CAPACITOR	47μF,16V
C303	QCYA1HK-103	CAPACITOR	0.01μF,50V
C304	QEPC1CM-226	NP E CAPACITOR	22μF,16V
C305	QER61CM-106	E CAPACITOR	10μF,16V
C306	QCYA1HK-103	CAPACITOR	0.01μF,50V
C307	QER61EM-475	E CAPACITOR	4.7μF,25V
C308	QER61CM-476	E CAPACITOR	47μF,16V
C309	QER61CM-476	E CAPACITOR	47μF,16V
C310	QER61EM-475	E CAPACITOR	4.7μF,25V
C311	QER61EM-475	E CAPACITOR	4.7μF,25V
C312	QCYA1HK-103	CAPACITOR	0.01μF,50V
C313	QER61AM-476	E CAPACITOR	47μF,10V
C314	QCYA1HK-103	CAPACITOR	0.01μF,50V
C315	QER61AM-226	E CAPACITOR	22μF,10V
C316	QCTA1CH-390	CAPACITOR	39pF,16V
C317	QCTA1CH-121	CAPACITOR	120pF,16V
C318	QEPC1HM-105	NP E CAPACITOR	1μF,50V
C319	QCYA1HK-103	CAPACITOR	0.01μF,50V
C320	QER61CM-106GZ	E CAPACITOR	10μF,16V
C321	QCYA1HK-103	CAPACITOR	0.01μF,50V
C322	QCYA1HK-223	CAPACITOR	0.022μF,50V
C323	QCYA1HK-223	CAPACITOR	0.022μF,50V
C324	QCYA1HK-103	CAPACITOR	0.01μF,50V
C325	QCYA1HK-103	CAPACITOR	0.01μF,50V
C326	QCYA1HK-103	CAPACITOR	0.01μF,50V
C327	QCYA1HK-103	CAPACITOR	0.01μF,50V
C328	QCYA1HK-103	CAPACITOR	0.01μF,50V
C329	QCYA1HK-103	CAPACITOR	0.01μF,50V
C330	QCYA1HK-103	CAPACITOR	0.01μF,50V
C331	QCYA1HK-103	CAPACITOR	0.01μF,50V
C332	QCYA1HK-103	CAPACITOR	0.01μF,50V
C333	QCTA1CH-101	CAPACITOR	100pF,16V
C334	QCYA1HK-103	CAPACITOR	0.01μF,50V
C335	QCYA1HK-103	CAPACITOR	0.01μF,50V
C336	QER61AM-476	E CAPACITOR	47μF,10V
C337	QCYA1HK-223	CAPACITOR	0.022μF,50V
C338	QEPC1CM-226	NP E CAPACITOR	22μF,16V
C339	QCTA1CH-390	CAPACITOR	39pF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C340	QCTA1CH-121	CAPACITOR	120pF,16V
	C341	QEPC1HM-105	NP E CAPACITOR	1μF,50V
	C342	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C343	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C344	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C345	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C346	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C347	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C348	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C349	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C350	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C351	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C352	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C353	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C354	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C355	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C356	QCTA1CH-101	CAPACITOR	100pF,16V
	C357	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C358	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C359	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C360	QER61CM-476	E CAPACITOR	47μF,16V
	C361	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C362	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C363	QCTA1CH-561	CAPACITOR	560pF,16V
	C364	QCTA1CH-561	CAPACITOR	560pF,16V
	C365	QCYA1HK-223	M CAPACITOR	0.022μF,50V
	L201	PU48530-221J	COIL	220μH
	L202	PU48530-221J	COIL	220μH
	L203	PU48530-221J	COIL	220μH
	L204	PU48530-220J	COIL	22μH
	L301	PU48530-221J	COIL	220μH
	L302	PU48530-221J	COIL	220μH
	L303	PU48530-221J	COIL	220μH
	L304	PU48530-100J	COIL	10μH
	L305	PU48530-100J	COIL	10μH
	L306	PU48530-221J	COIL	220μH
	L307	PU48530-221J	COIL	220μH
	L308	PU48530-100J	COIL	10μH
	L309	PU48530-100J	COIL	10μH
	BPF301	PELN0396	BAND PASS FILTER	
	CF1	PU60086	CERAMIC FILTER	
	DL301	PGZ01558	DELAY LINE, ×2(DL301, DL302)	
⚠	X1	PGZ01700	CRYSTAL RESONATOR	
	K201	PU60281-2Z	FERRATE BEADS	
	K202	PU60281-2Z	FERRATE BEADS	
	K203	PU60281-2Z	FERRATE BEADS	
	K204	PU60281-2Z	FERRATE BEADS	
	K205	PU60281-2Z	FERRATE BEADS	
	SLD1	PU36469	SHIELD CASE	
	SLD2	PU60657	SHIELD COVER	
	SPC1	PGZ01128-02	SPACER, ×2	
	TP1	SQMX001-001Z	TEST PIN, ×21	
	CN1	PGZ01937-44	MALE CONNECTOR	
	CN2	PGZ01937-44	MALE CONNECTOR	

SERVO／M-CTL BOARD ASSEMBLY <30>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PRK10135B	M-CTL／R-SERVO BOARD ASSY
	STK1	PRD30072-83	STICKER
	STK2	PRD30072-84	STICKER
	STK3	PRD30072-85	STICKER
	IC1	UPD4053BG	IC
	IC2	UPD74HC04G	IC
	IC3	BA10393F	IC
	IC4	TC4W53F	IC
	IC5	UPD4030BG	IC
	IC6	UPD4066BG	IC
	IC7	UPD4066BG	IC
	IC8	NJM2068MD	IC
	IC9	BA10393F	IC
	IC10	NJM2068MD	IC
	IC11	BA10393F	IC
	IC12	BA10358F	IC
	IC13	UPD4013BG	IC
	IC14	SC78148GF-026	IC
	IC15	BR24C02F	IC
	IC16	UPD74HC573GS	IC
	IC17	UPD74HC138G	IC
	IC18	PGD30620C-14-2	IC
	IC21	UPD71055GB	IC
	IC22	NJM2068MD	IC
	IC23	NJM2068MD	IC
	IC24	BA10358F	IC
	IC25	BA10339F	IC
	IC26	BA10358F	IC
	IC28	BA10358F	IC
	IC31	M62354FP	IC
	IC32	NJM2068MD	IC
	IC33	TA8405S	IC
	IC34	BA10358F	IC
	IC35	BA10393F	IC
	IC36	TL431CLP	IC
	IC37	AN3834K	IC
	IC38	AN3834K	IC
	IC39	TC4S69F	IC

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q1	2SC2412K(RS)	TRANSISTOR	
Q2	2SA1037K(QR)	TRANSISTOR	
Q3	2SC2412K(RS)	TRANSISTOR	
Q4	2SK621	FE TRANSISTOR	
Q5	2SK621	FE TRANSISTOR	
Q6	2SC2412K(QR)	TRANSISTOR	
Q7	DTC114EK	TRANSISTOR	
Q8	2SA1037K(QR)	TRANSISTOR	
Q9	2SC2412K(RS)	TRANSISTOR	
Q10	2SD1691(K)	TRANSISTOR	
Q11	2SK621	FE TRANSISTOR	
Q12	DTA114EK	TRANSISTOR	
Q22	DTC114YK	TRANSISTOR	
Q23	DTC114WK	TRANSISTOR	
Q24	2SD1468S(RS)	TRANSISTOR	
Q25	2SB1151(L)	TRANSISTOR	
Q26	2SB1073(PQ)-XE	TRANSISTOR	
Q27	2SB1073(PQ)-XE	TRANSISTOR	
Q30	2SB907	TRANSISTOR	
Q31	2SB1073(PQ)-XE	TRANSISTOR	
Q32	2SB1073(PQ)-XE	TRANSISTOR	
Q33	DTC114WK	TRANSISTOR	
Q34	DTC114WK	TRANSISTOR	
Q37	DTC114WK	TRANSISTOR	
Q38	DTC114WK	TRANSISTOR	
Q39	DTC114WK	TRANSISTOR	
Q40	2SB1142(RST)	TRANSISTOR	
Q41	2SD1468S(RS)	TRANSISTOR	
Q42	DTA124EK	TRANSISTOR	
Q43	2SB1142(RST)	TRANSISTOR	
Q44	2SD1468S(RS)	TRANSISTOR	
Q45	DTA124EK	TRANSISTOR	
D1	DAN202K	DIODE	
D2	RB400D	DIODE	
D3	HZ5CLL	ZENER DIODE	
D4	HZ5CLL	ZENER DIODE	
D21	ERA15-02PNLB	DIODE	
D22	ERA15-02PNLB	DIODE	
D25	ERA15-02PNLB	DIODE	
D26	ERA15-02PNLB	DIODE	
D27	ERA15-02PNLB	DIODE	
D28	RK14LF-B2	DIODE	
D29	DAN202K	DIODE	
D30	RK14LF-B2	DIODE	
D31	DAN202K	DIODE	
D32	MA3056(M)	DIODE	
D33	DAN202K	DIODE	
R3	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R4	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R5	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R6	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R7	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R8	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R9	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R10	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R11	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R12	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R13	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R14	NRVA62D-183N	RESISTOR	18kΩ,1/16W
R15	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R16	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R17	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R18	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R19	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R20	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R21	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R22	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R23	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R24	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R25	NRVA62D-183N	RESISTOR	18kΩ,1/16W
R26	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R27	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R28	NRVA62D-334N	RESISTOR	330kΩ,1/16W
R29	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R30	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R31	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R32	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R33	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R34	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R35	QRSA08J-564YN	RESISTOR	560kΩ,1/10W
R36	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R37	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R38	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R39	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R40	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R41	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R42	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R43	QRSA08J-100YN	RESISTOR	10Ω,1/10W
R44	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R45	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R46	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R47	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R48	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R49	QRSA08J-394YN	RESISTOR	390kΩ,1/10W
R50	NRVA62D-473N	RESISTOR	47kΩ,1/16W
R51	NRVA62D-473N	RESISTOR	47kΩ,1/16W
R52	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R53	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R54	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R55	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R56	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R57	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R58	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R59	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R60	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R61	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R62	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R63	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R64	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R65	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R66	NRVA62D-222N	RESISTOR	2.2kΩ,1/16W
R67	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R68	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R69	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R70	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R71	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R72	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R73	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R74	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R75	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R76	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R77	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R78	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R79	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R80	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R81	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R82	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R83	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R84	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R85	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R86	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R87	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R88	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R90	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R91	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R92	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R93	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R94	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R95	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R96	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R97	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R98	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R99	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R100	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R101	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R102	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R103	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R104	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R105	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R106	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R107	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R108	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R109	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R110	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R111	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R112	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R113	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R114	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R115	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R116	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R117	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R118	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R119	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R120	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R121	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R122	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R123	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R124	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R125	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R126	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R127	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R128	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R129	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R130	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R131	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R132	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R133	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R134	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R135	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R136	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R137	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R138	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R202	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R203	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R204	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R205	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R206	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R207	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R208	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R209	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R210	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R211	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R212	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R213	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R214	QVPC625-103Z	V RESISTOR	10kΩ
R215	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R216	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R217	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R218	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R219	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R220	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R221	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R222	QVPC625-102Z	V RESISTOR	1kΩ
R223	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R224	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R225	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R226	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R227	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R228	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R229	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R230	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R231	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R232	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R233	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R234	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R235	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R236	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R237	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R238	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R239	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R240	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R241	QRSA08J-274YN	RESISTOR	270kΩ,1/10W
R242	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R243	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R244	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R245	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R246	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R247	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R248	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R249	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R250	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R251	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R252	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R253	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R254	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R255	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R256	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R260	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R261	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R262	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R263	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R264	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R265	QRSA08J-274YN	RESISTOR	270kΩ,1/10W
R266	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R267	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R268	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R269	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R270	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R271	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R272	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R273	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R274	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R275	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R276	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R277	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R278	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R279	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R280	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R284	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R285	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R286	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R287	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R288	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R289	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R290	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R291	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R292	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R293	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R294	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R295	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R296	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R297	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R298	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R299	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R300	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R301	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R302	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R303	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R304	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R305	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R306	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R307	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R308	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R309	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R314	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R315	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R316	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R317	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R318	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R319	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R320	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R321	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R322	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R323	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R324	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
⚠ R325	QRG019J-561S	OMF RESISTOR	560Ω,1W
R326	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R327	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R328	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R329	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R330	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R331	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R332	QRX029J-R56A	MF RESISTOR	0.56Ω,2W
R333	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R334	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R335	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R336	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R337	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R338	QRG019J-561S	OMF RESISTOR	560Ω,1W
R339	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R340	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R341	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R342	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R343	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R344	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R345	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R346	QRX029J-R56A	MF RESISTOR	0.56Ω,2W
R347	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R348	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
⚠ R349	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R350	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R351	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R352	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R353	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R354	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C1	QENC1CM-476	NP E CAPACITOR	47μF,16V
C2	QETC1CM-476	E CAPACITOR	47μF,16V
C3	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C4	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QFP42AF-102M	PP CAPACITOR	0.001μF,100V
C7	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C8	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C9	QFP42AF-102M	PP CAPACITOR	0.001μF,100V
C10	QCYA1HK-102	CAPACITOR	0.001μF,50V
C11	QCTA1CH-271	CAPACITOR	270pF,16V

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C12	QCTA1CH-150	CAPACITOR	15pF,16V
C13	QCYA1HK-102	CAPACITOR	0.001μF,50V
C14	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C15	QETC1CM-106	E CAPACITOR	10μF,16V
C16	QCYA1HK-223	CAPACITOR	0.022μF,50V
C17	QETC1CM-476	E CAPACITOR	47μF,16V
C18	QETC1CM-476	E CAPACITOR	47μF,16V
C19	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C20	QCTA1CH-100	CAPACITOR	10pF,16V
C21	QCYA1HK-223	CAPACITOR	0.022μF,50V
C22	QETC1CM-476	E CAPACITOR	47μF,16V
C23	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C24	QCTA1CH-100	CAPACITOR	10pF,16V
C25	QCTA1CH-101	CAPACITOR	100pF,16V
C26	QCTA1CH-101	CAPACITOR	100pF,16V
C27	QETC1CM-106	E CAPACITOR	10μF,16V
C28	QCYA1HK-102	CAPACITOR	0.001μF,50V
C29	QCYA1HK-273	CAPACITOR	0.027μF,50V
C30	QCYA1HK-223	CAPACITOR	0.022μF,50V
C31	QETC1HM-334	E CAPACITOR	0.33μF,50V
C32	QCTA1CH-270	CAPACITOR	27pF,16V
C33	QCTA1CH-470	CAPACITOR	47pF,16V
C34	QCYA1HK-472	CAPACITOR	0.0047μF,50V
C35	QCYA1HK-472	CAPACITOR	0.0047μF,50V
C36	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C37	QETC1EM-475	E CAPACITOR	4.7μF,25V
C38	QETC1HM-225	E CAPACITOR	2.2μF,50V
C39	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C40	QCTA1CH-101	CAPACITOR	100pF,16V
C41	QCYA1HK-103	CAPACITOR	0.01μF,50V
C42	QCYA1HK-103	CAPACITOR	0.01μF,50V
C43	QCYA1HK-223	CAPACITOR	0.022μF,50V
C44	QETC1CM-476	E CAPACITOR	47μF,16V
C45	QCYA1HK-223	CAPACITOR	0.022μF,50V
C46	QCYA1HK-223	CAPACITOR	0.022μF,50V
C47	QCYA1HK-223	CAPACITOR	0.022μF,50V
C48	QCFA1CZ-334	CAPACITOR	0.33μF,16V
C49	QCFA1CZ-334	CAPACITOR	0.33μF,16V
C50	QETC1CM-476	E CAPACITOR	47μF,16V
C51	QCYA1HK-223	CAPACITOR	0.022μF,50V
C52	QCYA1HK-223	CAPACITOR	0.022μF,50V
C53	QCYA1HK-102	CAPACITOR	0.001μF,50V
C54	QCYA1HK-223	CAPACITOR	0.022μF,50V
C55	QCYA1HK-223	CAPACITOR	0.022μF,50V
C56	QCYA1HK-223	CAPACITOR	0.022μF,50V
C57	QCYA1HK-223	CAPACITOR	0.022μF,50V
C58	QCYA1HK-223	CAPACITOR	0.022μF,50V
C59	QCYA1HK-223	CAPACITOR	0.022μF,50V
C60	QCYA1HK-223	CAPACITOR	0.022μF,50V
C61	QCYA1HK-223	CAPACITOR	0.022μF,50V
C62	QCYA1HK-223	CAPACITOR	0.022μF,50V
C63	QCYA1HK-223	CAPACITOR	0.022μF,50V
C64	QCYA1HK-223	CAPACITOR	0.022μF,50V
C65	QCYA1HK-223	CAPACITOR	0.022μF,50V
C66	QCYA1HK-223	CAPACITOR	0.022μF,50V
C67	QCYA1HK-223	CAPACITOR	0.022μF,50V
C68	QCTA1CH-101	CAPACITOR	100pF,16V
C69	QCTA1CH-101	CAPACITOR	100pF,16V
C70	QCTA1CH-101	CAPACITOR	100pF,16V
C71	QCTA1CH-101	CAPACITOR	100pF,16V
C72	QCTA1CH-101	CAPACITOR	100pF,16V
C73	QCTA1CH-101	CAPACITOR	100pF,16V
C74	QCTA1CH-101	CAPACITOR	100pF,16V
C75	QCTA1CH-101	CAPACITOR	100pF,16V
C76	QCTA1CH-101	CAPACITOR	100pF,16V
C77	QCTA1CH-101	CAPACITOR	100pF,16V
C79	QCTA1CH-101	CAPACITOR	100pF,16V
C80	QCTA1CH-101	CAPACITOR	100pF,16V
C81	QCTA1CH-101	CAPACITOR	100pF,16V
C82	QCTA1CH-101	CAPACITOR	100pF,16V
C83	QCTA1CH-101	CAPACITOR	100pF,16V
C84	QCTA1CH-101	CAPACITOR	100pF,16V
C85	QCTA1CH-101	CAPACITOR	100pF,16V
C86	QCTA1CH-101	CAPACITOR	100pF,16V
C87	QCTA1CH-101	CAPACITOR	100pF,16V
C88	QCTA1CH-101	CAPACITOR	100pF,16V
C89	QCTA1CH-101	CAPACITOR	100pF,16V
C90	QCTA1CH-101	CAPACITOR	100pF,16V
C91	QCTA1CH-101	CAPACITOR	100pF,16V
C92	QCTA1CH-101	CAPACITOR	100pF,16V
C93	QCTA1CH-101	CAPACITOR	100pF,16V
C94	QCTA1CH-101	CAPACITOR	100pF,16V
C95	QCTA1CH-101	CAPACITOR	100pF,16V
C96	QCTA1CH-101	CAPACITOR	100pF,16V
C101	QCYA1HK-102	CAPACITOR	0.001μF,50V
C102	QCYA1HK-103	CAPACITOR	0.01μF,50V
C103	QETC1CM-476	E CAPACITOR	47μF,16V
C104	QCYA1HK-223	CAPACITOR	0.022μF,50V
C105	QCYA1HK-223	CAPACITOR	0.022μF,50V
C106	QCYA1HK-223	CAPACITOR	0.022μF,50V
C107	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C108	QCTA1CH-821	CAPACITOR	820pF,16V
C109	QCYA1HK-102	CAPACITOR	0.001μF,50V
C110	QCYA1HK-102	CAPACITOR	0.001μF,50V
C111	QCYA1HK-223	CAPACITOR	0.022μF,50V
C112	QCYA1HK-223	CAPACITOR	0.022μF,50V
C113	QCYA1HK-103	CAPACITOR	0.01μF,50V
C114	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C115	QCYA1HK-223	CAPACITOR	0.022μF,50V
C116	QETC1CM-476	E CAPACITOR	47μF,16V
C117	QCYA1HK-223	CAPACITOR	0.022μF,50V
C118	QETC1CM-476	E CAPACITOR	47μF,16V
C119	QETC1CM-106	E CAPACITOR	10μF,16V
C120	QCYA1HK-223	CAPACITOR	0.022μF,50V
C121	QETC1CM-106	E CAPACITOR	10μF,16V
C122	QCYA1HK-223	CAPACITOR	0.022μF,50V
C123	QCYA1HK-223	CAPACITOR	0.022μF,50V
C124	QCYA1HK-103	CAPACITOR	0.01μF,50V
C125	QCYA1HK-103	CAPACITOR	0.01μF,50V
C126	QCYA1HK-102	CAPACITOR	0.001μF,50V
C127	QCYA1HK-103	CAPACITOR	0.01μF,50V
C130	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C131	QCYA1HK-223	CAPACITOR	0.022μF,50V
C132	QCTA1CH-7R0	CAPACITOR	7pF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C133	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C134	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C135	QCTA1CH-7R0	CAPACITOR	7pF,16V
	C138	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C139	QCTA1CH-7R0	CAPACITOR	7pF,16V
	C140	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C141	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C142	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C143	QCTA1CH-7R0	CAPACITOR	7pF,16V
	C146	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C147	QETC1CM-476	E CAPACITOR	47μF,16V
	C148	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C149	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C150	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C151	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C152	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C153	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C154	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C155	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C156	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C157	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C158	QETC1VM-227	E CAPACITOR	220μF,35V
	C159	QETC1EM-476	E CAPACITOR	47μF,25V
	C160	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C161	QETC1CM-476	E CAPACITOR	47μF,16V
	C162	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C163	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C164	QETC1CM-476	E CAPACITOR	47μF,16V
	C165	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C166	QETC1CM-476	E CAPACITOR	47μF,16V
	C167	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C168	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C169	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C170	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C171	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C172	QETC1EM-107	E CAPACITOR	100μF,25V
	C173	QEZ0139-107Z	E CAPACITOR	100μF
	C174	QEZ0139-107Z	E CAPACITOR	100μF
	C175	QEZ0139-107Z	E CAPACITOR	100μF
	C176	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C177	QETC1CM-106	E CAPACITOR	10μF,16V
	C178	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C179	QETC1EM-476	E CAPACITOR	47μF,25V
	C180	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C181	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C183	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C184	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C185	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C186	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C187	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C188	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C189	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C190	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C191	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C192	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C193	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C194	QETC1VM-227	E CAPACITOR	220μF,35V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C195	QETC1VM-227	E CAPACITOR	220μF,35V
	C196	QEZ0139-107Z	E CAPACITOR	100μF
	C197	QEZ0139-107Z	E CAPACITOR	100μF
	C198	QEZ0139-107Z	E CAPACITOR	100μF
	C199	QETC1CM-106	E CAPACITOR	10μF,16V
	C200	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C201	QETC1EM-476	E CAPACITOR	47μF,25V
	C202	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C203	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C205	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C206	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C207	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C208	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C209	QFV11HJ-154	TF CAPACITOR	0.15μF,50V
	C210	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C211	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C212	QETC1HM-475	E CAPACITOR	4.7μF,50V
	C213	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C214	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C215	QCYA1HK-472	CAPACITOR	0.0047μF,50V
	C216	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C217	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C218	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C219	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	L1	PU48530-271J	COIL	270μH
	L2	PU48530-271J	COIL	270μH
	L3	PU50277	COIL	
	L4	PU48530-271J	COIL	270μH
	L21	PU50277	COIL	
	L22	PU48530-271J	COIL	270μH
	L23	PU48530-271J	COIL	270μH
	L25	PU48530-271J	COIL	270μH
	L26	PU50277	COIL	
	L27	PU48530-271J	COIL	270μH
	L28	PU48530-271J	COIL	270μH
	L29	PU48530-271J	COIL	270μH
	L30	PU50277	COIL	
	L31	PGZ01998	COIL	
	L32	PGZ01990	COIL	
	L33	PU50277	COIL	
	L34	PGZ01998	COIL	
	L35	PGZ01990	COIL	
⚠	X1	PEVB0335	CRYSTAL RESONATOR	
⚠	K1	PU60281-2Z	FERRATE BEADS, × 2(K1, K2)	
⚠	K3	PGZ02003	FERRITE CORE, × 1	
⚠	HS1	PQ45789	HEAT SINK, × 3	
	SCW1	SBSB3008Z	SCREW, × 2	
	SCW2	SBSB3010Z	SCREW, × 4	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
SKT1	PGZ01724-028	IC SOCKET
SLD2	PRS20010	SHIELD CASE
TP1	SQMX001-001Z	TEST PIN, ×7
CN1	PU59973-18	CONNECTOR
CN2	PU59555-3	CONNECTOR
CN3	PU59555-8	CONNECTOR
CN4	PU59555-6	CONNECTOR
CN5	PU59555-10	CONNECTOR
CN6	PU59555-5	CONNECTOR
CN7	PU59973-18	CONNECTOR
CN8	PU59555-104	CONNECTOR
CN21	PU59555-5	CONNECTOR
CN22	PU59555-4	CONNECTOR
CN23	PU59555-2	CONNECTOR
CN24	PU59555-2	CONNECTOR
CN25	PU59555-6	CONNECTOR
CN26	PU59555-9	CONNECTOR
CN27	PU59555-4	CONNECTOR
CN28	PU59555-3	CONNECTOR
CN29	PU59555-10	CONNECTOR
CN30	PU59555-7	CONNECTOR
CN31	PU59555-10	CONNECTOR
CN32	PU59555-7	CONNECTOR
⚠ CP1	ICP-F10	CIRCUIT PROTECTOR
⚠ CP2	ICP-F10	CIRCUIT PROTECTOR
⚠ CP3	ICP-F10	CIRCUIT PROTECTOR

SYSCON BOARD ASSEMBLY <31>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20214C-01	SYSCON BOARD ASSY, BR-S800	
PWBA	PRK20214D-01	SYSCON BOARD ASSY, BR-S500	
IC1	SC78148GF-026	IC	
IC2	M27C512-15F1	IC	
IC2	PGD30620C-15-1	IC	
IC3	BR24C01AF	IC	
IC4	TC74HC373AF	IC	
IC5	TC74HC00AF	IC	
IC6	TC74HC00AF	IC	
IC7	TC74HC04AF	IC	
IC8	TC74HC30AF	IC	
IC9	M51957BFP	IC	
Q1	DTC144EK	TRANSISTOR	
D1	DA204K	DIODE	
D2	DA204K	DIODE	
D3	DA204K	DIODE	
D4	DA204K	DIODE	
D5	DA204K	DIODE	
R6	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R7	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R8	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R9	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R10	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R11	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R12	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R13	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R14	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R15	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R16	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R17	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R18	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R19	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R20	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R21	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R22	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R23	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R24	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R25	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R26	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R27	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R28	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R29	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R30	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R31	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R32	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R33	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R34	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R35	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R36	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R37	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R41	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R42	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R43	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R45	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R46	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R50	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R51	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R52	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R53	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R55	QRSA08J-473YN	RESISTOR, BR-S500	47kΩ,1/10W
R56	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R57	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R60	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R61	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R62	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R64	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R65	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R66	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R67	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R68	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R69	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R70	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R71	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R72	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R73	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R74	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R75	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R76	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R77	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R78	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R80	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R81	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R82	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R83	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R84	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R85	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R86	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R91	QRSA08J-0R0Y	RESISTOR, BR-S800	0Ω,1/10W
	R95	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R101	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
	R111	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R112	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R113	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R114	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R115	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R116	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R117	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R118	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R119	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R120	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R121	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R122	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R123	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R124	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R125	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R126	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	C1	QER61CM-226	E CAPACITOR	22μF,16V
	C2	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C3	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C4	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C5	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C6	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C7	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C8	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C9	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C12	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C13	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C14	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C15	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C16	QCTA1CH-220	CAPACITOR	22pF,16V
	C17	QCTA1CH-220	CAPACITOR	22pF,16V
	C18	QCYA1HK-221	CAPACITOR	220pF,50V
	C19	QCYA1HK-221	CAPACITOR	220pF,50V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C20	QCYA1HK-221	CAPACITOR	220pF,50V
	C21	QCYA1HK-221	CAPACITOR	220pF,50V
	C23	QCYA1HK-221	CAPACITOR	220pF,50V
	C26	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C30	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C31	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C32	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C33	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C34	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C35	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C36	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C51	QCTA1CH-101	CAPACITOR	100pF,16V
	C52	QCTA1CH-101	CAPACITOR	100pF,16V
	C53	QCTA1CH-101	CAPACITOR	100pF,16V
	C54	QCTA1CH-101	CAPACITOR	100pF,16V
	C55	QCTA1CH-101	CAPACITOR	100pF,16V
	C56	QCTA1CH-101	CAPACITOR	100pF,16V
	C57	QCTA1CH-101	CAPACITOR	100pF,16V
	C58	QCTA1CH-101	CAPACITOR	100pF,16V
	C59	QCTA1CH-101	CAPACITOR	100pF,16V
	C61	QCTA1CH-101	CAPACITOR	100pF,16V
	C62	QCTA1CH-101	CAPACITOR	100pF,16V
	C63	QCTA1CH-101	CAPACITOR	100pF,16V
	C64	QCTA1CH-101	CAPACITOR	100pF,16V
	C65	QCTA1CH-101	CAPACITOR	100pF,16V
	C66	QCTA1CH-101	CAPACITOR	100pF,16V
	C67	QCTA1CH-101	CAPACITOR	100pF,16V
	C68	QCTA1CH-101	CAPACITOR	100pF,16V
	C69	QCTA1CH-101	CAPACITOR	100pF,16V
	C70	QCTA1CH-101	CAPACITOR	100pF,16V
	C71	QCTA1CH-101	CAPACITOR	100pF,16V
	C72	QCTA1CH-101	CAPACITOR	100pF,16V
	C73	QCTA1CH-101	CAPACITOR	100pF,16V
	C74	QCTA1CH-101	CAPACITOR	100pF,16V
	C75	QCTA1CH-101	CAPACITOR	100pF,16V
	C76	QCTA1CH-101	CAPACITOR	100pF,16V
	C77	QCTA1CH-101	CAPACITOR	100pF,16V
	L1	PGZ00617-221	COIL	
⚠	X1	PGZ00513	CERAMIC FILTER	
⚠	K1	QRD161J-0R0	FERRATE BEADS	
⚠	K2	PGZ00354	FERRATE BEADS	
	SKT1	PGZ01724-028	IC SOCKET	
⚠	SLD1	PRS30039	SHIELD CASE	
	SLD2	PGZ01128-02	SPACER, ×2	
	CN1	PGZ01937-64	MALE CONNECTOR	

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OPERATION-CPU BOARD ASSEMBLY <32>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10151A1-02	OPERATION-CPU BOARD ASSY	
	Q1	DTC144EK	TRANSISTOR	
	D1	SLV-56YC3F	LE DIODE	
	D2	SLV-56YC3F	LE DIODE	
	D3	SLV-56YC3F	LE DIODE	
	D6	SLV-56YC3F	LE DIODE	
	D7	SLV-56YC3F	LE DIODE	
	D8	SLV-56YC3F	LE DIODE	
	R2	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R3	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R20	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R21	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R22	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R23	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	C1	QER61CM-476	E CAPACITOR	47μF,16V
	C2	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C3	QER61CM-476	E CAPACITOR	47μF,16V
	C4	QCYA1HK-223	CAPACITOR	0.022μF,50V
	L1	PGZ00617-221	COIL	
	L2	PGZ00617-221	COIL	
	MET1	PGZ01337-02	METER	
	MET2	PGZ01336-02	METER	
	SPC1	PRD30597	SHADE, ×2 (FOR METER)	
	CN1	PGZ01942-10	CONNECTOR	
	CN2	PGZ01942-10	CONNECTOR	
	CN3	PGZ01942-10	CONNECTOR	
	CN4	PGZ01942-10	CONNECTOR	
	CN5	PU59973-18	CONNECTOR	
	CN6	PU59973-24	CONNECTOR	
	CN7	PU59973-18	CONNECTOR	

OPERATION-VR BOARD ASSEMBLY <33>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10151A2-02	OPE.-VR BOARD ASSY, BR-S800	
	PWBA	PRK10151B2-02	OPE.-VR BOARD ASSY, BR-S500	
	STK1	PRD30072-86	STICKER, ×2	
	IC11	M5218AFP-XE1	IC	
	IC12	BA3308F	IC, BR-S800	
	Q11	DTA144EK	TRANSISTOR	
	Q12	DTC144EK	TRANSISTOR	
	Q13	DTC323TK	TRANSISTOR	
	Q14	DTC323TK	TRANSISTOR	
	D11	DAN202K	DIODE	
	D12	DAN202K	DIODE	
	D13	DAN202K	DIODE	
	R36	QRSA08J-332YN	RESISTOR, BR-S800	3.3kΩ,1/10W
	R37	QRSA08J-392YN	RESISTOR, BR-S800	3.9kΩ,1/10W
	R38	QRSA08J-105YN	RESISTOR, BR-S800	1MΩ,1/10W
	R39	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
	R40	QRSA08J-152YN	RESISTOR, BR-S800	1.5kΩ,1/10W
	R41	QRSA08J-823YN	RESISTOR, BR-S800	82kΩ,1/10W
	R42	QRSA08J-221YN	RESISTOR, BR-S800	220Ω,1/10W
	R51	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R52	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R53	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R56	QRSA08J-330YN	RESISTOR	33Ω,1/10W
	R57	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R60	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R61	QRSA08J-330YN	RESISTOR	33Ω,1/10W
	R64	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R65	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R66	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
⚠	R67	QRZ0077-101X	FUSIBLE RESISTOR	100Ω,1/4W
	R68	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	VR11	PGZ01964	V RESISTOR, BR-S800	
	VR12	PGZ01964	V RESISTOR, BR-S800	
	VR13	PGZ01964	V RESISTOR, BR-S800	
	VR14	PGZ01964	V RESISTOR, BR-S800	
	VR15	PGZ01966	V RESISTOR	
	VR16	PGZ01965	V RESISTOR	
	R171	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R172	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R173	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R174	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R175	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R176	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R181	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R182	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R183	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R184	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R185	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R186	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R187	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R188	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R189	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R190	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	C7	QCTA1CH-101	CAPACITOR, BR-S800	100pF,16V
	C8	QER61HM-105	E CAPACITOR, BR-S800	1μF,50V
	C9	QER61CM-476	E CAPACITOR, BR-S800	47μF,16V
	C10	QCTA1CH-101	CAPACITOR, BR-S800	100pF,16V
	C11	QCTA1CH-121	CAPACITOR, BR-S800	120pF,16V
	C12	QER61CM-106	E CAPACITOR, BR-S800	10μF,16V
	C13	QCTA1CH-101	CAPACITOR, BR-S800	100pF,16V
	C14	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
	C15	QCYA1HK-103	CAPACITOR, BR-S800	0.01μF,50V
	C52	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C53	QER61AM-476	E CAPACITOR	47μF,10V
	C57	QER61CM-475	E CAPACITOR	4.7μF,16V
	C58	QER61CM-475	E CAPACITOR	4.7μF,16V
	C59	QER61CM-476	E CAPACITOR	47μF,16V
	C60	QER61AM-476	E CAPACITOR	47μF,10V
	SW1	PGZ01478	SLIDE SWITCH	
	SW2	PGZ00470-02	SLIDE SWITCH	
	SW3	PGZ00469-02	SLIDE SWITCH	
	SW4	PGZ00469-02	SLIDE SWITCH, BR-S800	
	SW5	PGZ00470-02	SLIDE SWITCH	
	SW6	PGZ00469-02	SLIDE SWITCH	
⚠	K1	PGZ00354	FERRATE BEADS	
⚠	K2	PGZ01976	FERRATE BEADS	
⚠	K3	PGZ01976	FERRATE BEADS	
⚠	K4	PGZ00354	FERRATE BEADS	
⚠	K5	PGZ01976	FERRATE BEADS	
	K6	PGZ01976	N FILTER	
	K7	PGZ01976	N FILTER	
	K8	PGZ01976	N FILTER	
⚠	BKT1	PRD44290-01-01	BRACKET, (FOR VR), BR-S800	
	J1	PU60664	MINI JACK	
	J2	PU60664-3	MINI JACK, BR-S800	
	J3	PGZ01516	FEMALE CONNECTOR	
	J4	PGZ01947	1P JACK	
	SCW1	SDSF3010Z	SCREW	
	SPC1	PU60010	SPACER, ×2	
⚠	VA1	PU49624-2	VARISTOR	
	CN11	PU60711-118	CONNECTOR	
	CN12	PU60711-124	CONNECTOR	
⚠	CP1	ICP-F25	CIRCUIT PROTECTOR	

OPERATION-SW BOARD ASSEMBLY <34>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PRK10151A3-02	OPE.-SW. BOARD ASSY, BR-S800
	PWBA	PRK10151B3-02	OPE.-SW. BOARD ASSY, BR-S500
	IC21	M50255P	IC
	Q21	DTB143TK	TRANSISTOR
	Q22	DTB143TK	TRANSISTOR
	Q23	DTB143TK	TRANSISTOR
	Q24	DTB143TK	TRANSISTOR
	Q25	DTB143TK	TRANSISTOR
	Q26	DTB143TK	TRANSISTOR
	Q27	DTB143TK	TRANSISTOR
	Q28	DTB143TK	TRANSISTOR
	Q29	DTC144EK	TRANSISTOR
	Q30	DTC144EK	TRANSISTOR
	Q31	DTC144EK	TRANSISTOR
	Q32	DTC144EK	TRANSISTOR
	Q33	DTC144EK	TRANSISTOR
	Q34	DTC144EK	TRANSISTOR
	Q35	DTC144EK	TRANSISTOR
	Q36	DTC144EK	TRANSISTOR
	D31	SLR-55MC3F	LE DIODE
	D32	SLR-55MC3F	LE DIODE
	D33	SLR-55MC3F	LE DIODE
	D34	SLR-55MC3F	LE DIODE
	D35	SLR-55MC3F	LE DIODE
	D36	SLR-55MC3F	LE DIODE
	D37	SLR-55MC3F	LE DIODE
	D38	GL-8TR21	LE DIODE
	D39	GL-8TR21	LE DIODE, BR-S800
	D40	GL-8TR21	LE DIODE, BR-S800
	D41	GL-8TR21	LE DIODE
	D42	GL-8TR21	LE DIODE
	D43	GL-8TR21	LE DIODE
	D44	GL-8TR21	LE DIODE
	D45	GL-8TR21	LE DIODE
	D46	GL-8TR21	LE DIODE
	D61	DAN202K	DIODE
	D62	DAN202K	DIODE
	D63	DAN202K	DIODE
	D64	DAN202K	DIODE
	D65	DAN202K	DIODE
	D66	DAN202K	DIODE
	D67	DAN202K	DIODE
	D68	DAN202K	DIODE
	D81	DAN202K	DIODE
	D82	DAN202K	DIODE
	D83	DAN202K	DIODE
	D84	DAN202K	DIODE
	D85	DAN202K	DIODE

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
D91	LB-302VF2	LE DIODE	
D92	LB-302VF2	LE DIODE	
D93	LB-302VF2	LE DIODE	
R71	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R72	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R73	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R74	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R75	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R76	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R77	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R78	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R79	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R80	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R81	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R82	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R83	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R84	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R85	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R86	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R87	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R88	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R91	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R92	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R93	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R94	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R95	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R96	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R97	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R98	QRSA08J-221YN	RESISTOR	220Ω,1/10W
C71	QCYA1HK-103	CAPACITOR	0.01μF,50V
SW11	PESW0525-02Z	TACT SWITCH	
SW12	PESW0525-02Z	TACT SWITCH	
SW13	PESW0525-02Z	TACT SWITCH	
SW14	PESW0525-02Z	TACT SWITCH	
SW15	PESW0525-02Z	TACT SWITCH	
SW16	PESW0525-02Z	TACT SWITCH	
SW17	PESW0525-02Z	TACT SWITCH	
SW18	PESW0525-02Z	TACT SWITCH	
SW19	PESW0525-02Z	TACT SWITCH	
SW20	PESW0525-02Z	TACT SWITCH	
SW21	PESW0525-02Z	TACT SWITCH, BR-S800	
SW22	PESW0525-02Z	TACT SWITCH, BR-S800	
SW23	PESW0525-02Z	TACT SWITCH	
SW24	PESW0525-02Z	TACT SWITCH	
HD1	PQ43191	LED HOLDER, ×9(S800), ×7(S500)	
SPC1	PU50633-3	LED SPACER, ×7	
SPC2	PRD44204	LED SPACER, ×3	
CN21	PU60711-118	CONNECTOR	
CN22	PU60910-6	CONNECTOR	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION

OPERATION-DIAL BOARD ASSEMBLY <35>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK10151A4-02	OPERATION-DIAL BOARD ASSY
SW31	PGZ00153-1-1	ROTARY CODE SWITCH

REAR BOARD ASSEMBLY <40>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20234E-01	REAR BOARD ASSY	
PWBA	PRK20234F-01	REAR BOARD ASSY	
SCW1	SDSF3010R	SCREW, ×8(S800), ×6(S500)	
D1	RD10ES-T1B1	ZENER DIODE, BR-S800	
D2	RD10ES-T1B1	ZENER DIODE, BR-S800	
D3	RD10ES-T1B1	ZENER DIODE, BR-S800	
D4	RD10ES-T1B1	ZENER DIODE, BR-S800	
D5	RD10ES-T1B1	ZENER DIODE	
D6	RD10ES-T1B1	ZENER DIODE	
D7	RD10ES-T1B1	ZENER DIODE	
D8	RD10ES-T1B1	ZENER DIODE	
D9	RD10ES-T1B1	ZENER DIODE, BR-S800	
D10	RD10ES-T1B1	ZENER DIODE, BR-S800	
D11	RD10ES-T1B1	ZENER DIODE, BR-S800	
D12	RD10ES-T1B1	ZENER DIODE, BR-S800	
D13	RD10ES-T1B1	ZENER DIODE	
D14	RD10ES-T1B1	ZENER DIODE	
D15	RD10ES-T1B1	ZENER DIODE	
D16	RD10ES-T1B1	ZENER DIODE	
D17	RD10ES-T1B1	ZENER DIODE	
D18	RD10ES-T1B1	ZENER DIODE	
D19	RD10ES-T1B1	ZENER DIODE	
D20	RD10ES-T1B1	ZENER DIODE	
D21	RD10ES-T1B1	ZENER DIODE, BR-S800	
D22	RD10ES-T1B1	ZENER DIODE, BR-S800	
D23	RD10ES-T1B1	ZENER DIODE	
D24	RD10ES-T1B1	ZENER DIODE	
D25	RD10ES-T1B1	ZENER DIODE	
D26	RD10ES-T1B1	ZENER DIODE	
D27	RD10ES-T1B1	ZENER DIODE, BR-S800	
D28	RD10ES-T1B1	ZENER DIODE, BR-S800	
D29	RD10ES-T1B1	ZENER DIODE, BR-S800	
D30	RD10ES-T1B1	ZENER DIODE, BR-S800	
D31	RD10ES-T1B1	ZENER DIODE	
D32	RD10ES-T1B1	ZENER DIODE	
D33	RD10ES-T1B1	ZENER DIODE	
D34	RD10ES-T1B1	ZENER DIODE	
R1	QRD161J-750	RESISTOR	75Ω,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C1	QCF31HP-103	CAPACITOR	0.01μF,50V
SW1	PGZ00469-02	SLIDE SWITCH, BR-S500	
SW2	PGZ00470-02	SLIDE SWITCH, BR-S800	
BKT1	PRD20482-06	PANEL, BR-S500	
JA1	PGZ01531	S-TERMINAL CONNECTOR, BR-S800	
JA2	PGZ01531	S-TERMINAL CONN	
JA3	PGZ01950	3P BNC CONNECTOR, BR-S500	
JA3	PGZ01948	4P BNC CONNECTOR, BR-S800	
JA4	PGZ01947	1P JACK	
JA5	PGZ01949	2P JACK, BR-S500	
JA5	PGZ01946	4P JACK, BR-S800	
JA6	PGZ01949	2P JACK, BR-S500	
JA6	PGZ01946	4P JACK, BR-S800	
SCW1	SDSF3010R	SCREW, ×8(S800), ×6(S500)	
SCW2	SDST3008Z	SCREW, ×2	
SCW3	SDSF3012R	SCREW	
SCW4	WBS3000N	WASHER	
CN1	PGZ01942-10	CONNECTOR	
CN2	PGZ01942-10	CONNECTOR	
CN3	PGZ01942-10	CONNECTOR	
CN4	PGZ01942-10	CONNECTOR	

END SENSOR BOARD ASSEMBLY <50>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20225B1-01	END SENS BOARD ASSY, BR-S500	
PWBA	PRK20225A1-02	END SENS BOARD ASSY, BR-S800	
Q1	2SD1423(RS)	TRANSISTOR, BR-S800	
Q2	2SB1030R,S	TRANSISTOR, BR-S800	
Q3	DTC124ES	TRANSISTOR, BR-S800	
D1	HZ3BLL	DIODE, BR-S800	
R1	QRD161J-223	RESISTOR, BR-S800	22kΩ,1/6W
R2	QRD161J-6R8	RESISTOR, BR-S800	6.8Ω,1/6W
R3	QRD161J-473	RESISTOR, BR-S800	47kΩ,1/6W
R4	QRD161J-472	RESISTOR, BR-S800	4.7kΩ,1/6W
C1	QFN31HJ-332	CAPACITOR, BR-S800	0.0033μF,50V
C2	QFN31HJ-102	CAPACITOR, BR-S800	0.001μF,50V
C3	QFP42AJ-333	CAPACITOR, BR-S800	0.033μF,100V
C4	QETC1CM-106	E CAPACITOR, BR-S800	10μF,16V
PS1	PU61321-1-1	TAPE SENSOR	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
⚠ T1	PU60321	OSC TRANSFORMER, BR-S800
CN1	PU59555-2	CONNECTOR, BR-S800
CN2	PU59555-5	CONNECTOR

REC SAFETY BOARD ASSEMBLY <51>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20225A2-01	REC SAFE BOARD ASSY, BR-S800
SW1	PU61319	REC SAFETY SWITCH, BR-S800
CN3	PU59555-102	CONNECTOR, BR-S800

S-SWITCH BOARD ASSEMBLY <52>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20225A4	S-SWITCH BOARD ASSY, BR-S800
SW1	PU61008	CASSETTE SWITCH, BR-S800
CN4	PU59555-102	CONNECTOR, BR-S800

MODE MOTOR BOARD ASSEMBLY <53>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20225A3	MODE MOTOR BOARD ASSY	
C5	QCF31HP-223	CAPACITOR	0.022μF,50V
CN5	PU59555-2	CONNECTOR	

CASSETTE HOUSING BOARD ASSEMBLY <54>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20255A-01	HOUSING BOARD ASSY
Q1	PN268VI	PHOTO TRANSISTOR
SW1	YU40177-2	PUSH SWITCH
SW2	YU40177-2	PUSH SWITCH
CN1	PU59555-106	CONNECTOR

MECHA-TERMINAL BOARD ASSEMBLY <55>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK20225A5	MECHA TERMINAL BOARD ASSY	
	CN6	PU59555-9	CONNECTOR	
	CN7	PU59555-2	CONNECTOR	
	CN8	PU59555-2	CONNECTOR	
	CN9	PU59555-2	CONNECTOR	
	CN10	PU59555-3	CONNECTOR	

A/C HEAD BOARD ASSEMBLY <56>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK20225A6	A/C HEAD BOARD ASSY	
	CN11	PU59555-111	CONNECTOR	

PRIMARY BOARD ASSEMBLY <60>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10163A1	PRIMARY BOARD ASSY	
⚠	C2	QCZ9016-222M	CAPACITOR	0.0022μF
⚠	C3	QCZ9016-222M	CAPACITOR	0.0022μF
	CL1	PU57505	FUSE CLIP, ×2	
	J5	PU60894-103	TERMINAL	
	J6	PU60894-103	TERMINAL	
	J7	PU60894-103	TERMINAL	
⚠	LF002	PGZ02011	LINE FILTER	
	CN1	PGZ01956-002	CONNECTOR	

SWITCHING REG. BOARD ASSEMBLY <61>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10163A2	SW. REGULATOR BOARD ASSY	
	IC1	FA5311P	IC	
	IC7	BA10358F	IC	
	Q1	2SK1217-01	FE TRANSISTOR	
	Q37	2SC4081(QRS)	TRANSISTOR	
	D1	AU01	FR DIODE	
	D2	AU01	FR DIODE	
	D3	RD27ES-T1B4	ZENER DIODE	
	D4	RD5.1ES-T1B3	ZENER DIODE	
	D5	1SS133	DIODE	
	D6	RD24ES-T1B3	ZENER DIODE	
	D7	1SR153-200-T2	FR DIODE	
	D20	FML-12S	FR DIODE	
	D24	FMB-24	BARRIER DIODE	
	D27	1SR153-200-T2	FR DIODE	
	D29	FML-12S	FR DIODE	
	D30	HZ22CP	ZENER DIODE	
	D31	FML-12S	FR DIODE	
	D33	FMB-24	BARRIER DIODE	
	D36	1SS133	DIODE	
	D37	1SS133	DIODE	
	D38	RD6.2ES-T1B3	ZENER DIODE	
	DA1	RBV-404	DIODE	
	R1	8D-13	POWER TH	
	R2	QRD161J-184	RESISTOR	180kΩ,1/6W
	R3	QRD161J-154	RESISTOR	150kΩ,1/6W
	R4	QRG032J-104	OMF RESISTOR	100kΩ,3W
	R5	QRG032J-104	OMF RESISTOR	100kΩ,3W
	R6	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R7	QRG01DJ-220X	OMF RESISTOR	22Ω,1W
	R8	QRD161J-221	RESISTOR	220Ω,1/6W
	R9	QRX014J-R22Z	MF RESISTOR	0.22Ω,1W
	R11	QRX014J-R27Z	MF RESISTOR	0.27Ω,1W
	R12	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R13	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
	R14	QRD161J-473	RESISTOR	47kΩ,1/6W
	R53	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
	R69	QRSA08J-331YN	RESISTOR	330 Ω,1/10W
	R76	QRD161J-471	RESISTOR	470Ω,1/6W
	R77	QRSA08J-432YN	RESISTOR	4.3kΩ,1/10W
	R78	QRSA08J-561YN	RESISTOR	560 Ω,1/10W
	R83	QRV144F-9761AY	CMF RESISTOR	9.76 kΩ,1/4W
	R84	QRV144F-1022AY	CMF RESISTOR	10.2 kΩ,1/4W
	R85	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R101	QRSA08J-0R0Y	RESISTOR, ×4	0 Ω,1/10W
	R102	QRSA08J-0R0Y	RESISTOR	0 Ω,1/10W
	R103	QRSA08J-0R0Y	RESISTOR	0 Ω,1/10W
	R104	QRSA08J-0R0Y	RESISTOR	0 Ω,1/10W
	R106	QRSA08J-0R0Y	RESISTOR	0 Ω,1/10W

#△	REF No.	PART No.	PART NAME, DESCRIPTION	
△	C5	QCZ9016-222M	CAPACITOR	0.0022μF
	C6	QFZ9022-333	MM CAPACITOR	0.033μF,250V
	C8	PGZ02009	E CAPACITOR	
	C9	QCZ0212-472	CAPACITOR	0.0047μF,1kV
	C11	QETC1HM-474	E CAPACITOR	0.47μF,50V
	C12	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C13	QFLA1HJ-471Z	M CAPACITOR	470pF,50V
	C14	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C15	QEGC1EM-336	E CAPACITOR	33μF,25V
	C16	QFV11HJ-394	MM CAPACITOR	0.39μF,50V
	C17	QCFA1HZ-472	CAPACITOR	0.0047μF,50V
	C18	QCZ0136-101Z	CAPACITOR	100pF
	C20	QEGB1EM-108	E CAPACITOR	1000μF,25V
	C21	QETB1EM-108	E CAPACITOR	1000μF,25V
	C28	QEGB1AM-278	E CAPACITOR	2700μF,10V
	C29	QETB1AM-228	E CAPACITOR	2200μF,10V
	C33	QEGB1EM-127	E CAPACITOR	120μF,25V
	C34	QETC1EM-227	E CAPACITOR	220μF,25V
	C39	QEGB1EM-108	E CAPACITOR	1000μF,25V
	C40	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C42	QETC1EM-477	E CAPACITOR	470μF,25V
	C43	QEGB1CM-158	E CAPACITOR	1500μF,16V
	C44	QFV41HJ-473	TF CAPACITOR	0.047μF,50V
	C45	QETB1CM-108	E CAPACITOR	1000μF,16V
	C46	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C53	QEGB1CM-687	E CAPACITOR	680μF,16V
	C54	QETB1CM-108	E CAPACITOR	1000μF,16V
	C59	QFLA1HJ-273Z	M CAPACITOR	0.027μF,50V
	C73	PU57601-475ME	E CAPACITOR	4.7μF
	C76	PU57601-106MC	E CAPACITOR	10μF
	L20	PU60944-330K	COIL	33μH
	L21	PU60944-330K	COIL	33μH
	L22	PELN0270-330KZ	COIL	33μH
	L23	PU60944-330K	COIL	33μH
	L24	PU60944-330K	COIL	33μH
	L25	PU60944-330K	COIL	33μH
△	K1	PU60281-2Z	FERRATE BEADS	
△	K2	PU60281-2Z	FERRATE BEADS	
△	K3	PU60281-5	FERRATE BEADS	
△	K4	PU60281-2Z	FERRATE BEADS	
△	K21	PU60281-2Z	FERRATE BEADS	
△	K22	PU60281-2Z	FERRATE BEADS	
△	K23	PU60281-2Z	FERRATE BEADS	
△	K24	PU60281-2Z	FERRATE BEADS	
△	K25	PU60281-2Z	FERRATE BEADS	
△	PC1	PS2501-1	PHOTO COUPLER	
△	T1	PGZ02008	SW TRANS	

#△	REF No.	PART No.	PART NAME, DESCRIPTION
	HS1	PGZ02010	HEAT SINK
	HS2	PRD31020-01-02	HEAT SINK
	SCW1	DPSP3006Z	SCREW
	SCW1	SDSG3008Z	SCREW
	SCW2	SDSP3006Z	SCREW, ×5
	J8	PEMC0742-008	B TO B CONNECTOR
	J9	PEMC0742-010	B TO B CONNECTOR
	J10	PEMC0742-008	B TO B CONNECTOR
	J11	PEMC0742-008	B TO B CONNECTOR

REGULATOR BOARD ASSEMBLY <62>

#△	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10163A3	REGULATOR BOARD ASSY	
△	ICP1	ICP-F20	CIRCUIT PROTECTOR	
	IC2	BA10358F	IC	
	IC3	BA10358F	IC	
	IC4	UPC7912HF	IC	
	IC6	BA10358F	IC	
	Q20	2SD1856	TRANSISTOR	
	Q22	2SD1856	TRANSISTOR	
	Q23	DTA114EU	TRANSISTOR	
	Q25	DTC114EU	TRANSISTOR	
	Q28	DTC143EU	TRANSISTOR	
	Q31	2SB941P	TRANSISTOR	
	Q32	2SA1515(QR)	TRANSISTOR	
	Q36	2SD1856	TRANSISTOR	
	Q38	2SA1576(QRS)	TRANSISTOR	
	D21	DAP202U	DIODE	
	D25	DAP202U	DIODE	
	D26	RD5.1ES-T1B3	ZENER DIODE	
	D34	DAP202U	DIODE	
	D35	RD5.1ES-T1B3	ZENER DIODE	
	D40	1SS133	DIODE	
	D41	1SS133	DIODE	
	D42	11E2	DIODE	
	D43	1SS133	DIODE	
	D44	1SS133	DIODE	
	R21	QRV144F-7321AY	CMF RESISTOR	7.32kΩ,1／4W
	R22	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
	R23	QRD161J-432	RESISTOR	4.3kΩ,1／6W
	R25	QRX014J-R27Z	MF RESISTOR	0.27Ω,1W

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#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R26	QRD161J-682	RESISTOR	6.8kΩ,1/6W
	R27	QRD161J-432	RESISTOR	4.3kΩ,1/6W
	R34	QRD161J-182	RESISTOR	1.8kΩ,1/6W
	R35	QRD161J-752	RESISTOR	7.5kΩ,1/6W
	R36	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R37	QRX014J-R22Z	MF RESISTOR	0.22Ω,1W
	R38	QRD161J-102	RESISTOR	1kΩ,1/6W
	R39	QRD161J-752	RESISTOR	7.5kΩ,1/6W
	R40	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
	R41	QVPC625-202Z	V RESISTOR	2kΩ
	R42	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R43	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R44	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R48	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R49	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R54	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
	R55	QRZ0077-470X	FUSIBLE RESISTOR	47Ω,1/4W
	R57	QRV144F-8451AY	CMF RESISTOR	8.45kΩ,1/4W
	R58	QRV144F-9761AY	CMF RESISTOR	9.76kΩ,1/4W
	R66	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
	R67	QRD161J-182	RESISTOR	1.8kΩ,1/6W
	R68	QRD161J-752	RESISTOR	7.5kΩ,1/6W
	R70	QRX014J-R22Z	MF RESISTOR	0.22Ω,1W
	R71	QRD161J-102	RESISTOR	1kΩ,1/6W
	R72	QRD161J-752	RESISTOR	7.5kΩ,1/6W
	R73	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
	R74	QVPC625-202Z	V RESISTOR	2kΩ
	R75	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
	R79	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R80	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R81	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R82	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	R105	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	C22	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C23	QETB1CM-108	E CAPACITOR	1000μF,16V
	C24	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C30	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C31	QETC0JM-477	E CAPACITOR	470μF,6.3V
	C32	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C35	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C36	QETC1EM-475	E CAPACITOR	4.7μF,25V
	C37	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C38	QETC1EM-475	E CAPACITOR	4.7μF,25V
	C47	QETC1CM-227	E CAPACITOR	220μF,16V
	C48	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C55	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C56	QETC0JM-476	E CAPACITOR	47μF,6.3V
	C57	QETC0JM-227	E CAPACITOR	220μF,6.3V
	C58	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C60	QETC0JM-226	E CAPACITOR	22μF,6.3V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	HS1	PRD31023	HEAT SINK	
	SCW1	SDSP3006Z	SCREW	
	SCW2	SDSP3006Z	SCREW, ×5	
	TP1	SQMX001-001Z	TEST PIN, ×2 (TP1,TP2)	
	CN4	PU59555-107	CONNECTOR	
	CN5	PU59555-105	CONNECTOR	
	CN6	PU59555-106	CONNECTOR	

LINE FILTER BOARD ASSEMBLY <64>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK10163A4	LINE FILTER BOARD ASSY	
⚠	C001	QFZ9022-333	MM CAPACITOR	0.033μF,250V
⚠	C002	QFZ9022-333	MM CAPACITOR	0.033μF,250V
⚠	LF001	PELN0678	LINE FILTER	

DRUM BOARD <94>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWB	PRK30121	UPPER DRUM BOARD	

CONNECTOR BOARD ASSEMBLY <95>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PRK30122A	CONNECTOR BOARD ASSY	
	CN1	YU40106-13	CONNECTOR	
	CN2	PU58250-14	CONNECTOR	

SECTION 7
TECHNICAL INFORMATION

7.1 HOUR METER INDICATIONS

7.1.1 Outline

This model is capable of indicating the following data in the on-screen display besides running hours of the drum motor.

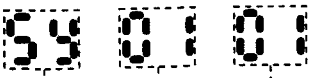
(1) Total operation (power-on) hours
 (POWER HOUR METER)
(2) Running hours of capstan motor (CAP HOUR METER)
(3) Running hours of reel motor (REEL HOUR METER)
(4) Number of switching-on times (POWER ON TIMES)
(5) Number of loading times (LOADING TIMES)
(6) Number of ejection times (EJECT TIMES)
(7) Number of times of head cleaner operation
 (HEAD CLEANING TIMES)
(8) Version No. of the CPU program (XXX ROM Ver.)

Those data are shown in the counter display on the front panel and the on-screen display.

7.1.2 Operation procedure

(1) Without any cassette inserted, press the EJECT and MENU buttons at the same time.
(2) The version number of the EP-ROM of the SYSCON board appears in the counter display.
(3) Every time the IN/+SHIFT or the OUT/−SHIFT button is pressed, the displayed item changes one after another as shown in the right column. Detail of each display is as follows.

<Program version display>

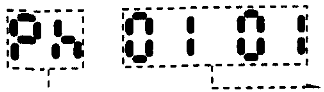


Version No. of program

ID No. of CPU
01; SYSCON
10; M-CTL
15; AUDIO
20; JVC 45 PIN(SA-K28EA)
21; RS-232C(SA-K27EA)
22; RS-422(SA-K26E)
40; Time code(SA-R50E)
80; DNR(SA-N50E)

Board name
Sy: SYSCON board
SE: SERVO/M-CTL board
AU: FM AUDIO board
S1: Board connected to the slot-1
S2: Board connected to the slot-1
S3: Board connected to the slot-2
S4: Board connected to the slot-2

<Hour meter display>

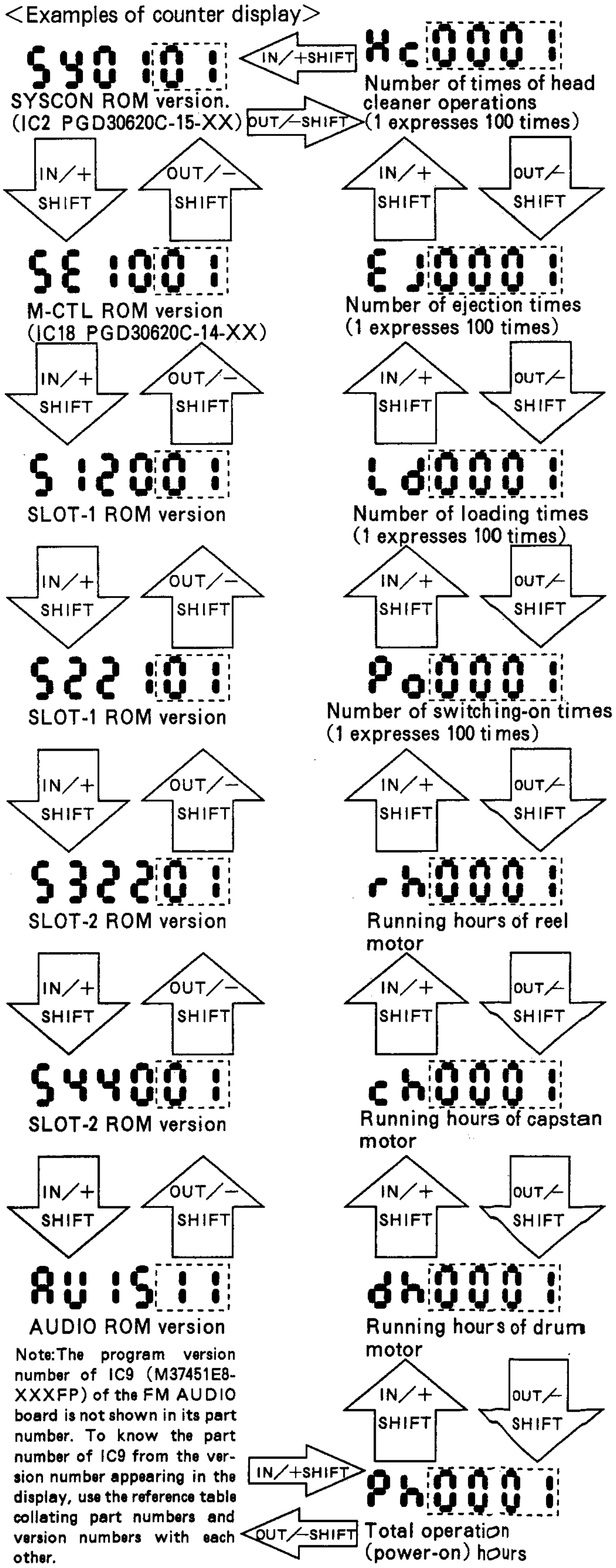


Hours (unit: hour) or Number of operation times (unit: 100 times)

Item of indication

(4) To reset the display to the original indication, press the MENU button once to reset it to the MENU SETTING display or press it one more again to reset it to the TAPE COUNTER display.

<Examples of counter display>


Sy 01 01
SYSCON ROM version.
(IC2 PGD30620C-15-XX)
IN/+SHIFT
OUT/−SHIFT
Hc 0001
Number of times of head cleaner operations
(1 expresses 100 times)
SE 10 01
M-CTL ROM version
(IC18 PGD30620C-14-XX)
Ej 0001
Number of ejection times
(1 expresses 100 times)
S1 20 01
SLOT-1 ROM version
Ld 0001
Number of loading times
(1 expresses 100 times)
S2 21 01
SLOT-1 ROM version
Po 0001
Number of switching-on times
(1 expresses 100 times)
S3 22 01
SLOT-2 ROM version
rh 0001
Running hours of reel motor
S4 40 01
SLOT-2 ROM version
ch 0001
Running hours of capstan motor
AU 15 11
AUDIO ROM version
dh 0001
Running hours of drum motor
Ph 0001
Total operation (power-on) hours

Note:The program version number of IC9 (M37451E8-XXXFP) of the FM AUDIO board is not shown in its part number. To know the part number of IC9 from the version number appearing in the display, use the reference table collating part numbers and version numbers with each other.
"504" → Version"11"
"505" → Version"20"

Note : In the on-screen display, the number of operation times is indicated at a unit of one time.

7.2 SERVICE MENU

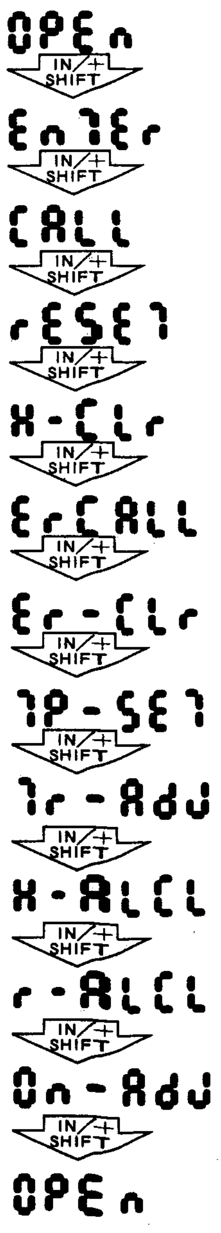
7.2.1 Outline

The service menu of this model includes the following functions.

(1) To set menu switches for servicing.
(2) To register and call user setting of menu switches.
(3) To reset menu switch setting to the initial setting at factory shipment.
(4) To show the history of warnings.

7.2.2 Access procedure to service menu

(1) Take the cassette tape out of the set and then turn off the power switch.
(2) Turn on the power switch again and press the EJECT and STOP buttons simultaneously within 2 seconds after the counter display goes on.
(3) "OPEn" appears in the counter display.
(4) Press the IN／+SHIFT button to show a desired menu.



OPEN
Menu to open the service menu switch.

ENTER
Menu to register user setting of menu switch.

CALL
Menu to call up registered menu switch setting.

RESET
Menu to reset the menu switch to the initial setting at factory shipment.

For factory use.

ERROR CALL
Menu to show the history of warnings.

ERROR CLEAR
Menu to reset data of the warning history.

For factory use.

TRACKING ADJUSTMENT
Menu to adjust tracking preset.

For factory use.

For factory use.

ON-SCREEN ADJUSTMENT
Menu for adjustment of the on-screen circuit.

The display returns to the OPEN menu. Continuous pressing of the IN／+SHIFT button shows the above service menues repeatedly.

7.2.3 Operation procedure

(1) Menu switch setting for service use

Besides the menu switches explained in the instructions, there are other menu switches for service use provided in this set. This subsection explains procedures to change the setting of those menu switches.

1) Access the service menu and get "OPEn" appearing in the counter display. (Refer to 7.2.2.)
2) Press the SET button on the front panel and then press the MENU button. All menu switches will be opened.
3) With the IN／+SHIFT and the OUT／−SHIFT buttons, access the menu number to be desired to change on the counter display.
4) Change the setting with the SET button.
5) To quit or cancel the service mode, press the MENU button.

(2) Registering procedure of user setting of Menu SW

1) Access the service menu and get "EnTEr" appearing in the counter display. (Refer to 7.2.2.)
2) Press the SET button on the front panel and the current menu switch setting is registered.

(3) Calling procedure of user setting of Menu SW

1) Access the service menu and get "CALL" appearing in the counter display. (Refer to 7.2.2.)
2) Press the SET button on the front panel and the menu switch setting is reset as it was registered in the above item (2) 'Registering procedure of user setting of menu switches'.

(4) Initializing procedure of Menu switch setting as it was set at factory shipment

1) Access the service menu and get "rESET" appearing in the counter display. (Refer to 7.2.2)
2) Press the SET button on the front panel and the menu switch setting is reset to the initial setting at factory shipment.

(5) Tracking preset adjustment mode

The tracking preset adjustment is necessary to obtain the optimum tracking as the tracking control knob is set at the center click position, since there is irregularity in the characteristics of variable resistors used for tracking adjustment. The tracking preset adjustment of this model is so simplified compared with previous models as just to store the output voltage with the tracking control being set at the center click position in the memory of the microprocessor.

1) Access the service menu and get "Tr-AdJ" appearing in the counter display. (Refer to 7.2.2.)
2) Set the tracking control knob at the center click position.
3) Press the SET button, and the microprocessor memorizes the output voltage of the tracking control.

(6) On-screen adjustment mode

The on-screen adjustment mode is used to adjust the oscillation frequency of the crystal used in the on-screen circuit. Previous models require to shortcircuit test points for this adjustment, however, this model is so improved that such troublesome shortcircuiting is replaced by this mode.

(7) Warning history clearning procedure

This model stores data of the last four warning modes. Use the warning history clearing menu to clear the stored data of past warnings.

1) Access the service menu and get "Er-CLr" appearing in the counter display. (Refer to 7.2.2.)
2) Press the SET button and the stored warning data is cleared.

Note : The menu switches for servicing are not shown in the on-screen display.

[ ] : initial settings.

Menu No.	Item	Function	Counter	Explanation
● SERVO				
000	FRAME SERVO		0,[1],2	MENU SW-1 Initial setting : 4FIELD
001	TBC CONNECT		[0],1	MENU SW-2 Initial setting : OFF
002	OPERATION LOCK		[0],1	MENU SW-1 Initial setting : OFF
003	SYNC SELECT		0,1,2,[3]	MENU SW-1 Initial setting : AUTO
004	AUTO H PHASE		0,[1]	MENU SW-2 Initial setting : ON
● VIDEO				
100	S-VHS SELECT		0,[1]	MENU SW-1 Initial setting : AUTO
101	EDIT SELECT		[0],1,2	MENU SW-1 Initial setting : OFF(PB)
106	SWITCHING POINT	Selects drum rotation phase	[0]	6.5H
			2	2.25H (Use this setting when you want a lower switching point for closed-circuit system.)
● AUDIO				
200	Hi-Fi AUDIO REC		0,[1]	MENU SW-1 Initial setting : ON
201	NORMAL AUDIO DOLBY NR		0,[1]	MENU SW-1 Initial setting : ON
202	NORMAL AUDIO LIMITER		0,[1]	MENU SW-1 Initial setting : ON
203	AUDIO OUTPUT SELECTER		[0],2	MENU SW-2 Initial setting : SEP
204	Hi-Fi OUT AT SEARCH		[0],1	MENU SW-2 Initial setting : MUTE
205	AUDIO-1 REC		[0],1	MENU SW-1 Initial setting : AUDIO-1
206	AUDIO-2/LTC		[0],1	MENU SW-2* Initial setting : AUDIO-2
207	AUDIO INPUT SELECT		[0],1	MENU SW-2 Initial setting : SEP
208	AUDIO DUB SELECT		1,[2],3	MENU SW-1 Initial setting : AUDIO-2
● SYSTEM				
300	DIRECT EJECT		0,[1]	MENU SW-2 Initial setting : ENABLE
301	DIRECT SEARCH		0,[1]	MENU SW-2 Initial setting : ENABLE
302	AUTO REC PREROLL		0,[1]	MENU SW-2 Initial setting : ENABLE
303	WARNING ENABLE	Normally keep this menu to "0"side.	[0]	Warning mode is enabled.
			1	Warning mode is not enabled.
304	RECORDING INHIBIT		[0],1	MENU SW-2 Initial setting : OFF
305	REPEAT RECORDING		[0],1	MENU SW-2 Initial setting : DISABLE
306	LONG PAUSE	Long pause parameters are selected with menu item #307~#310.	[0]	Long pause function is enabled.
			1	Long pause fonction is not enabled.
307	LONG PAUSE TIME	With menu item #306 set to "0" (ENABLE) ,selects the length of time before normal Pause (STOP, STILL and REC-PAUSE) changes to Long Pause.	0	Long pause starts 1 sec. after.
			1	Long pause starts 10 sec. after.
			2	Long pause starts 30 sec. after.
			3	Long pause starts 1 min. after.
			4	Long pause starts 2 min. after.
			5	Long pause starts 3 min. after.
			6	Long pause starts 4 min. after.
			[7]	Long pause starts 5 min. after.
308	LONG PAUSE (STILL) MODE	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in Still or Record-Pause mode,the VCR operates as specified.)	[0]	Standby off mode takes place.
			2	Every time the period of time set by the menu item #307 elapses, the tape is forwarded for 2 frames. (After this operation is repeated six times, the mode is shifted to the standby off mode.)
309	LONG STOP MODE	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in Stop mode, the VCR operates as specified.)	[0]	Standby off mode takes place.
			2	Every time the period of time set by the menu item #307 elapses, the tape is forwarded for 2 frames. (After this operation is repeated six times, the mode is shifted to the standby off mode.)

∗ When SA-R50 is installed, this menu will change to Menu switch-1.

Table 7-2-1 (1) Table of menu switches for service use

Note : The menu switches for servicing are not shown in the on-screen display. [ ] : initial settings.

Menu No.	Item	Function	Counter	Explanation
		● SYSTEM		
310	STAND-BY OFF MODE	Selects the status of Standby-off mode.	0	Drum rotates, pinch roller is off.
			[1]	Drum stops, pinch roller is off.
			2	Unloading end state.
312	MODE AT TAPE END		[0],1	MENU SW-2 Initial setting : STOP(SHORT REW)
313	PB•PB/EE SELECT	Selects output signal.	[0]	In the mode set by Menu No.314 : EE
			1	Always PB output mode.
314	PB/EE MODE	With menu item #313 set to "0" (PB/EE), selects the mode in which EE signal is output.	[0]	In STOP/FF/REW mode : EE
			1	In STOP : EE
315	LOCAL FUNCTION	Selects operation button to be accepted when REMOTE SW is set to REMOTE side.	[0]	STOP/EJECT
			1	STP/FF/REW/STL/PLY/EJ
			2	All buttons are accepted.
			3	All bottons are not accepted.
316	9PIN CMD FUNCTION (SA-K26)	Selects 9-pin remote control commands that are acceptable when front panel REMOTE switch is set to LOCAL.	[0]	Accepts no command from 9-pin remote control.
			1	Accepts STOP and EJECT command only.
317	9PIN DEVICE TYPE ID (SA-K26)		[0],1,2,3	MENU SW-2 Initial setting : JVC S-VHS-1
318	TC DATA W/O TC BOARD	Selects VCR's response to 9-pin remote control when remote control requests time code data and time code board is not installed.	0	VCR returns code meaning TC MISSING.
			[1]	VCR returns substitute CTL data.
319	TAPE MAX SPEED		[0],1,2	MENU SW-2 Initial setting : ×140
320	PREROLL TIME	Selects preroll time in one-second steps from 0 to 15 seconds. (This menu is available only when receiving the PREROLL command.)	0 : [5] : F	0 second 5 seconds 15 seconds
321	TIME REFERENCE FOR PREROLL	Selects time count reference for preroll in TC operation.	0	CTL (Preroll is possible even when TC is missing.)
			[1]	TC
322	IN POINT AUTO ENTRY (SA-K26)	Activates or defeats automatic IN point entry function when receiving the PREROLL command.	S800 S500 0 [0]	IN point is not entered automatically.
			[1] 1	IN point is entered automatically if no IN point has been previously entered.
323	MODE AFTER PREROLL	Selects the mode after preroll or cue up is completed. (This menu is available only when receiving the PREROLL or CUE UP WITH DATA command.)	[0]	STOP
			1	STILL
325	CTL COUNTER MODE	Selects the CTL counter mode.	[0]	±9H mode
			1	24H mode
327	CTL CLEAR AT EJECT	Activeates or defeats automatic CTL data and IN/OUT point data reset function when cassette is ejected.	0	CTL counter is reset when cassette is ejected.
			[1]	CTL counter is not reset when cassette is ejected.
328	EDIT POINT CLEAR (SA-K26)	Activates or defeats automatic IN/OUT point data clear function after Auto edit is completed. (This menu is available only when receiving AUTO EDIT command.)	0	DISABLE
			[1]	ENABLE
329	OUT POINT RETURN (SA-K26)	Activates or defeats automatic OUT point return function after Auto edit is completed. (This menu is available only when receiving AUTO EDIT command.)	0	DISABLE
			[1]	ENABLE
330	VIDEO EDIT DELAY		[0],1	MENU SW-2 Initial setting : 8FRAMES
331	AUDIO EDIT DELAY		[0],1	MENU SW-2 Initial setting : 8FRAMES

Table 7-2-1(2) Table of menu switches for service use

Note : The menu switches for servicing are not shown in the on-screen display. [ ] : initial settings.

Menu No.	Item	Function	Counter	Explanation
		● SYSTEM		
333	CF SERVO LOCK REPLY	Selects information to deliver to 9-pin remote when remote control requests status of 8-field colour frame lock. (S-VHS VCR does not have 8-field colour frame servo circuit.)	0	The bit of CF SERVO LOCK is always set to "0".
			[1]	The bit of CF SERVO LOCK is set to "1" when the capstan servo is locked to 4-field colour frame.
336	NTSC/PAL	Selects PAL/NTSC.	0	NTSC
			[1]	PAL
337	SLOW MODE		0,[1]	MENU SW-2 Initial setting : STEP
338	MENU SW-2		[0],1	MENU SW-1 Initial setting : CLOSE
339	AUDIO DUB ENABLE AT LTC		[0],1	MENU SW-2* Initial setting : DISABLE
340	SEARCH SPEED		[0],1	MENU SW-2 Initial setting : ×33
343	SUB WARNING INHIBIT		[0],1	MENU SW-2 Initial setting : OFF
351	SYNCHRONIZATION		0,[1]	MENU SW-2 Initial setting : ENABLE
356	MODE AT CF UNLOCK	Selects VCR mode in cases where colour frame is unlocked when automatic editing or edit preview is started.	0	EDIT : Executes editing or edit preview.
			1	STOP : Enters STOP mode.
			[2]	RE-TRY : Re-tries up to 3 times.
		● TIME-CODE (SA-R50)		
400	VITC POSITION-1		0~F,[C]	MENU SW-1 Initial setting : 19
401	VITC POSITION-2		0~F,[E]	MENU SW-1 Initial setting : 21
403	TCG REGEN MODE		[0],1,2	MENU SW-2 Initial setting : TC & UB
404	TC SOURCE AT REGEN	Selects the type of reference timecode in Internal Regen mode (with menu items #413 set to INT and #414 set to REGEN) and Auto Reader mode (with menu item #412 set to AUTO).	[0]	LTC
			1	VITC
405	LTC OUT SELECT		[0],1	MENU SW-2 Initial setting : OFF TAPE
406	U-BIT BINARY GROUP	Selects character set configuration to use TC generator's user bits.	[0]	NOT SPECIFIED : Character set configuration is not specified.
			1	ISO CHARACTER : 8-bit character set conforming to ISO646 and ISO2022 (with binary group flags at bit counts 43 and 59 in LTC; at 55and75 in VITC).
			2	UNASSIGNED-1 : Undefined
			3	UNASSIGNED-2 : Undefined
407	PHASE CORRECTION BIT	Selects recording of LTC phase correction bit.	0	OFF
			[1]	ON
408	VITC LINE	Selects whether VITC is recorded on the lines set with menu items #400 and #401.	[0]	VITC is recorded after lines are cleared.
			1	Lines are cleaned.
409	EXTERNAL REGEN TC		[0],1	MENU SW-2 Initial setting : LTC
410	AUTO REGEN MODE	Selects the edit mode in which time codes are recorded automatically in Regen mode regardless of menu item #414 setting. (This menu is available only when receiving AUTO EDIT command.)	[0]	ASSEMBLY + INSERT
			1	ASSEMBLY
			2	INSERT
			3	OFF
411	–	No function		
412	TIME CODE SELECT		1,2,3	MENU SW-1 Initial setting : [2] VITC(with SA-N50E) [1] LTC(w/o SA-N50E)
413	TCG SOURCE		[0],1	MENU SW-1 Initial setting : INTERNAL
414	TCG SELECT		0,[1]	MENU SW-1 Initial setting : REGEN
415	TCG MODE		[0],1	MENU SW-1 Initial setting : FREE RUN
417	VITC REC		0,1	MENU SW-1 Initial setting : [1] ON(with SA-N50E) [0] OFF(w/o SA-N50E)
418	VITC•LTC/CTL TC		[0],1	MENU SW-1 Initial setting : VITC•LTC

* When SA-R50 is installed, this menu will change to Menu switch-1.

Table 7-2-1(3) Table of menu switches for service use

Note : The menu switches for servicing are not shown in the on-screen display. [ ] : initial settings.

Menu No.	Item	Function	Counter	Explanation
● ON-SCREEN				
500	ON-SCREEN DISPLAY		0,[1]	MENU SW-1 Initial setting : ON
501	CHAR. H POSITION	Adjusts on-screen VCR data display position in the horizontal direction.	[0]	VCR data is displayed at the rightmost position.
			1-8	Display position shifts to the left with increasing numbers.
502	CHAR. V POSITION	Adjusts on-screen VCR data display position in the vertical direction.	[0]	VCR data is displayed at the bottom of screen.
			1-8	Display position shifts up with increasing numbers.
504	INFORMATION		0,[1]	MENU SW-2 Initial setting : TIME+MODE
506	BLUE BACK	Blue back ON/OFF switch.	0	Black
			[1]	Blue
● DNR (SA-N50)				
600	TBS FREEZE		0,1,[3]	MENU SW-1 Initial setting : FREEZE-2
602	TBS/ DNR		0,[1]	MENU SW-1 Initial setting : ON
604	YNR LEVEL		0,[1],2,3	MENU SW-1 Initial setting : 1
605	CNR LEVEL		0,[1],2	MENU SW-1 Initial setting : 1
610	FORCED DNR ON (SA-N50)	Adjustment switch	[0]	NORMAL
			1	ADJUSTMENT : DNR operates evenin EE mode.

Table 7-2-1(4) Table of menu switches for service use

(8) Calling procedure of warning history

This model stores the following data of past warning modes that the set entered for the last four times so as to inform the warning modes in detail.

a) Warning code in three figures.
b) Operation mode of the set when the warning was activated.
c) Operation mode of the set preceding the mode in which the warning was activated.
d) Operation button that was lastly operated before the warning mode.
e) Total operation (power-on) hours indicated by the hour meter when the warning was activated.

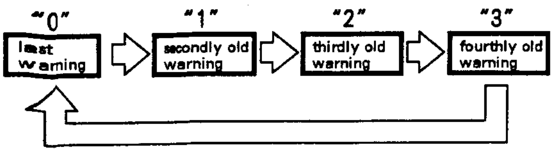
The above-mentioned information on the warning can be called by the following procedure.

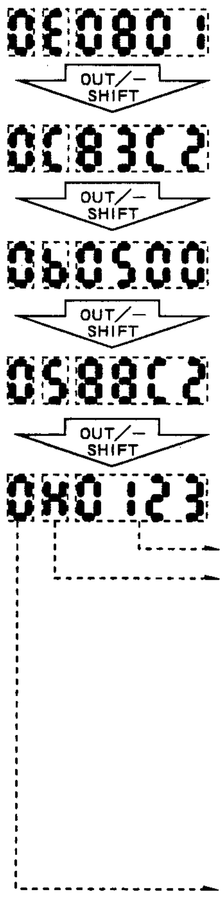
1) Access the service menu and get "ErCALL" appearing in the counter display. (Refer to 7.2.2)
2) Press the SET button on the front panel and such the last warning code as the following will appear in the counter display.

0E080 1

3) Press the OUT/-SHIFT button on the front panel repeatedly and the detailed information on the last warning mode will appear in the counter display one after another.

4) To access the data of older warnings, press the IN/+SHIFT button once to access the warning preceding the last one, press it again to access the thirdly old warning, and do it once more to access the fourthly old warning.





Warning code
(0801 : Abnormal supplytension)

Mode when the warning was activated. (83C2 : Shuttle +11 mode)

Mode preceding the mode in which the warning was activated.
(0500 : Play mode)

Lastly pressed operation button before the warning mode.
(88C2 : Shuttle+11 key)

Hours when the warning was activated.

Indicates data .

Indicates kind of data.

E ;ERROR DATA
(refer to 7.3.2)
C ;CURRENT MODE
(refer to Table 7-2-2)
b ;BEFORE MODE
(refer to Table 7-2-2)
S ;SWITCH
(refer to Table 7-2-3)
H ;HOUR METER

Indicates the order of warning counted backwards from the last warning.

CMD		MODE	REMARK
02	–	STILL	
05	–	PLAY	
07	–	NO CASSETTE	
09	–	EJECT	
0B	–	STOP-2	UNLOAD END state
0C	–	STOP-3	PINCH:OFF, DRUM: OFF
0D	–	STOP-4	PINCH: ON, DRUM: ON
0E	–	ERROR MODE	
10	–	POWER OFF	
13	–	SKIP FWD	Leader tape skipping in the Full-loading End state.
14	–	SKIP REV	
17	–	SLOW FF	Reel Search at 33X or 17X speed, or FF／REW (pinch roller off) near the end or
18	–	SLOW REW	
19	–	FAST FF	Reel Search at 140X speed.
1A	–	FAST REW	
1B	–	SHORT FF	Leader tape skipping in the Unloading End state.
1C	–	SHORT REW	
80	✱✱	REC	Including 1 byte data. ✱1
81	✱✱	ASSM EDIT	Including 1 byte data. ✱2
83	✱✱	SHUTTLE (+)	Including speed data. ✱3
84	✱✱	JOG (+)	Including speed data. ✱3
85	✱✱	VARIABLE (+)	Including speed data. ✱3
86	✱✱	PLAY(+)	Including speed data. ✱4
90	✱✱	AUDIO DUB	Including 1 byte data. ✱5
91	✱✱	INSERT EDIT	Including 1 byte data. ✱6
93	✱✱	SHUTTLE (−)	Including speed data. ✱3
94	✱✱	JOG (−)	Including speed data. ✱3
95	✱✱	VARIABLE (−)	Including speed data. ✱3
96	✱✱	PLAY (−)	Including speed data. ✱4
B3	✱✱	INTAKE	Including data to indicate the next mode. ✱7
B4	✱✱	HALF LOAD	
B5	✱✱	HALF UNLOAD	
B6	✱✱	LOAD	
B7	✱✱	UNLOAD	

Table 7-2-2 Mode data

CMD		KEY	REMARK
30	00	EJECT KEY	
31	00	STOP KEY	
32	00	FF KEY	
33	00	REW KEY	
34	00	STILL KEY	
37	00	EDIT KEY	
38	00	EDIT STOP KEY	
40	00	PLAY KEY	
41	00	REC+PLAY KEY	
42	00	REC+PAUSE KEY	
43	00	A.DUB+PLAY KEY	
44	00	A.DUB+STILL KEY	
45	00	STAND-BY KEY	
50	00	POWER ON KEY	
60	00	POWER OFF KEY	
87	✱✱	EE ON KEY	Containing data to select EE signal. ✱8
88	✱✱	SHTL(+) KEY	Containing speed data. ✱3
89	✱✱	JOG(+) KEY	Containing speed data. ✱3
8A	✱✱	VAR SRH(+) KEY	Containing speed data. ✱3
8B	✱✱	PLAY(+) KEY	Containing speed data. ✱4
97	✱✱	EE OFF KEY	Containing data to select EE signal. ✱8
98	✱✱	SHTL(−) KEY	Containing speed data. ✱3
99	✱✱	JOG(−) KEY	Containing speed data. ✱3
9A	✱✱	VAR SRH(−) KEY	Containing speed data. ✱3
9B	✱✱	PLAY(−) KEY	Containing speed data. ✱4

Table 7-2-3 Key data

Data added to mode commands

✱1 Detailed status of REC mode is shown by the data 0.

<Data 0>

MSD				LSD			
7	6	5	4	3	2	1	0
			REC		REC PLAY	REC PAUSE	BACK SPACE

✱2 Detailed status of ASSEM mode is shown by the data 0.

<Data 0>

MSD				LSD			
7	6	5	4	3	2	1	0
			ASSEM		EDIT PLAY	EDIT STILL	PRE-ROLL

✱3 Tape speed is expressed by the data 0 in the following equation.

$$\text{TAPE SPEED}=10^{\frac{\text{DATA0 [DEC]}}{64}-2}$$

✱4 Tape speed is expressed by the data 0 in the following equation.

$$\text{TAPE SPEED} =1\times(1+0.001\times\text{DATA0 [DEC]})$$

✱5 Detailed status of AUDIO DUB mode is shown by data 0.

<Data 0>

MSD				LSD			
7	6	5	4	3	2	1	0
			AUDIO DUB				PAUSE

✱6 Detailed status of INSERT mode is shown by data 0.

<Data 0>

MSD				LSD			
7	6	5	4	3	2	1	0
			INSERT		EDIT PLAY	EDIT STILL	PRE-ROLL

✱7 Although the next mode is indicated by the data 0 and data 1 in this command, the counter display shows the detail of the data 0 only.

<Data 0 >

MSD				LSD			
7	6	5	4	3	2	1	0
	REW	FF	STOP	REC PLAY	REC STILL		EJECT

<Data 1 > This data is not shown in the counter display.

MSD				LSD			
7	6	5	4	3	2	1	0
REV	FWD	STILL	PLAY		SHTL REV	SHTL STILL	SHTL FWD

✱8 In this command the data 0 indicates the signal line to be used for EE operation.

<Data 0>

MSD				LSD			
7	6	5	4	3	2	1	0
			SELECT				FULL

7.3 WARNING DETECTION CIRCUIT

7.3.1 Outline

If there occurs something abnormal in operation, this set diagnose the cause by itself and stops the operation automatically.

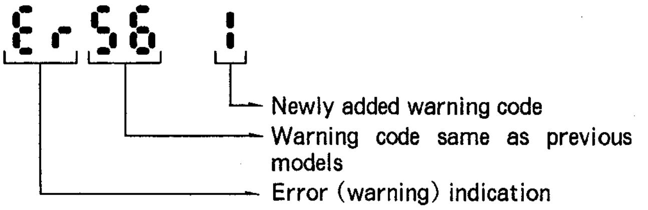
This operation is named the warning mode, which indicates the kind of the abnormal operation in the counter display on the front panel and in the Video Monitor Out signal.

Note: When the menu No. 303 'WARNING ENABLE' is set to OFF (01), the set does not enter the warning mode.

When the set enters the AUTO OFF mode, the set can be recovered from the mode only by turning off the main switch once and turning it on again.

Although such the operation as mentioned above is carried out in previous models, this model is improved in diagnosing speed with the newly added functions of the following.

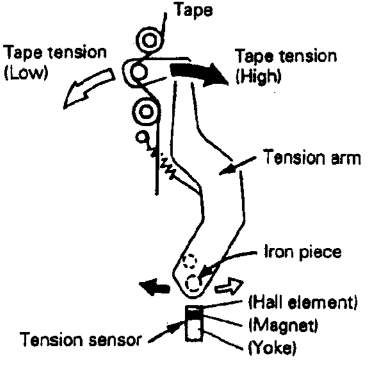
1) Warning code displayed in three figures
   Compared with the display in two figures for previous models, this set indicates more detailed data of the warning with an additional digit.

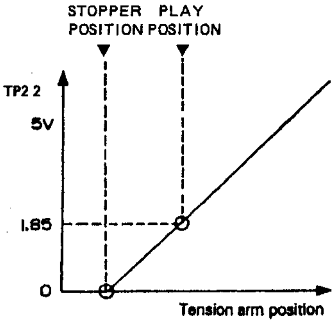

Er56 1
Newly added warning code
Warning code same as previous models
Error (warning) indication

2) Memory of warning history
   This set stores data of past warning modes in the memory. (Refer to 7.2.3(8) 'Calling procedure of warning history'.)

7.3.2 Table of warning codes

Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

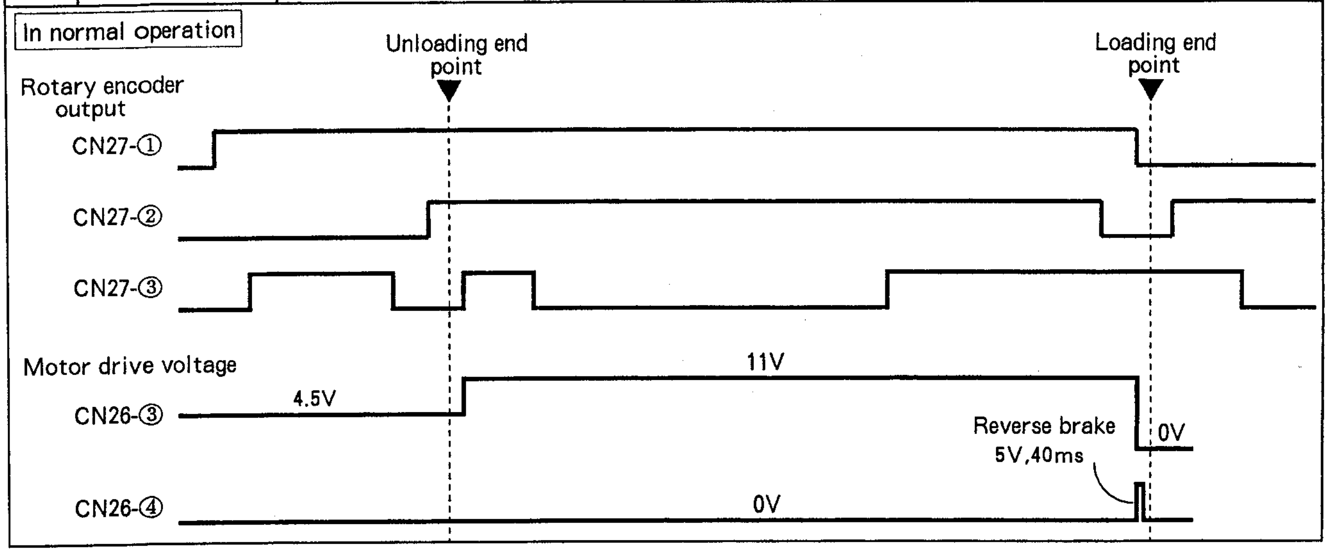
<table>
<tr><th>Code No.</th><th>Sensor</th><th>Detection manner</th><th>Operation</th><th>Countermeasure</th></tr>
<tr><td colspan="5">01:Breakdown or disconnection of LED for leader tape detection</td></tr>
<tr><td>01 1</td><td>Q22</td><td>When level of pin 38 of IC21 becomes High level for 240 ms or longer.
Normal level of pin 38 of IC21 is 0 V.</td><td>AUTO OFF</td><td>Replace the LED.</td></tr>
<tr><td colspan="5">02:Condensation on drum</td></tr>
<tr><td>02 1</td><td>Dew sensor (IC14pin75)
Characteristic of dew sensor<table><tr><th>Relative humidity</th><th>Resistance value</th></tr><tr><td>75%</td><td>20kΩ and less</td></tr><tr><td>100%</td><td>200kΩ and more</td></tr></table></td><td>When level of pin 75 of IC14 is 3 V or more.
This warning mode is cancelled when level of pin 75 of IC14 becomes 2 V or less.
When level of pin 75 of IC14 is 2 V to 3 V at the moment of power on, the set enters this warning mode if the last power-off was operated as the set was in the warning 02 mode.
Normal level of pin 75 of IC14 is 2 V or less.</td><td>The drum motor automatically runs after the cassette is ejected. As the set is released from the dewed condition, the warning mode is cancelled and the set comes back to the normal operation mode.
In the dewed condition, no cassette tape can be loaded.</td><td>If the warning mode is not cancelled, it may result from trouble of the dew sensor.</td></tr>
<tr><td colspan="5">08:Abnormal supply tension</td></tr>
<tr><td>08 1</td><td>Tension sensor (TP22 or IC14pin72)</td><td>When level of pin 72 of IC14 is less than 0.2 V for 500 ms as the mechanism is in the loading end state (except in the standby off mode).
Normal voltage at TP22 is as follows:
In play mode : 1.85 V ±0.10V
In standby off mode: $0^{+0.1}_{-0}$ V.</td><td>AUTO OFF</td><td>Abnormal tension servo.
Maladjustment of R214, R222. (This case needs adjustment of each torque of playing, loading and reversing.)
Faulty reel motor.
Trouble in the tape transport system.</td></tr>
<tr><td></td><td></td><td colspan="3">


</td></tr>
</table>

Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

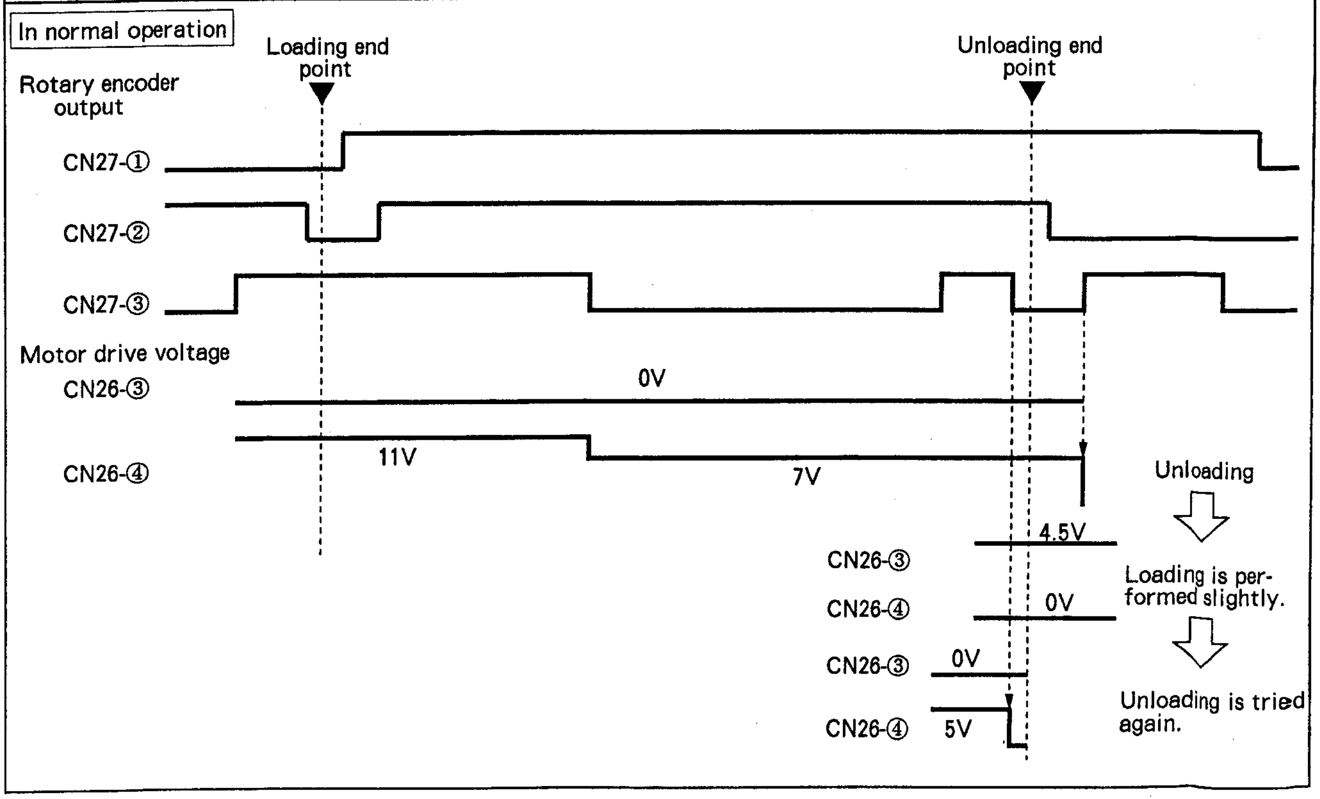
32:Loading is not carried out.

Code No.	Sensor	Detection manner	Operation	Countermeasure
32 1	Rotary encoder (CN27-①②③)	When loading does not finish within 8 sec after it starts.	Loading is cancelled and unloading is executed. Then, loading will be tried again. If the loading for the second time fails, too, the cassette tape is ejected.	Fault in rotary encoder. Fault in loading motor. Fault in IC33 MDA (TA8405S). Trouble in the loading mechanism. Faulty cassette tape.



33:Unloading is not carried out.

33 1	Rotary encoder (CN27-①②③)	When unloading does not finish within 8 sec after it starts.	Unloading is cancelled and loading is executed. Then, unloading will be tried again. If the unloading for the second time fails, too, the set enters the AUTO OFF warning mode.	Fault in rotary encoder. Fault in loading motor. Fault in IC33 MDA (TA8405S). Trouble in the loading mechanism. Faulty cassette tape.

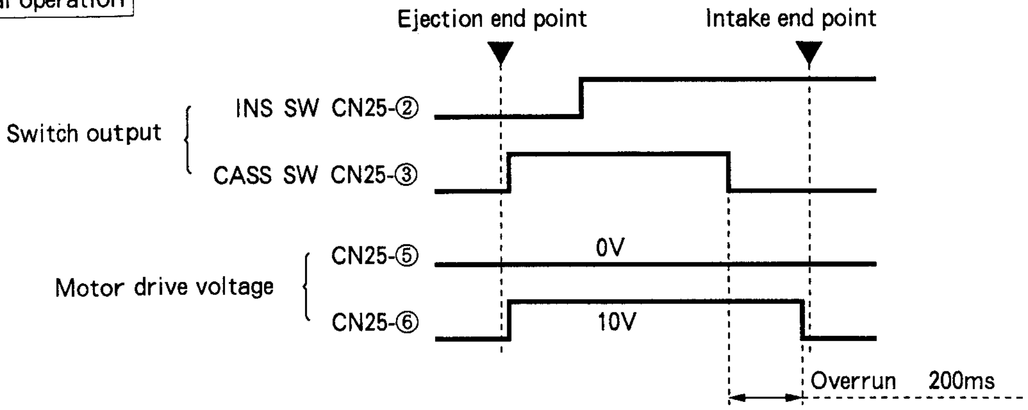


Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

Intake operation is not completed. (No warning indication)

Code No.	Sensor	Detection manner	Operation	Countermeasure
— —	Cassette switch (CN25-③) Insert switch (CN25-②)	When cassette tape intake operation does not finish within 3 sec.	Cassette tape is ejected. No warning indication is displayed.	Fault in cassette housing. Fault in IC33 MDA (TA8405S). Fault in cassette or insert switch. Faulty cassette tape. Abnormal orientation of LED for leader tape detection.

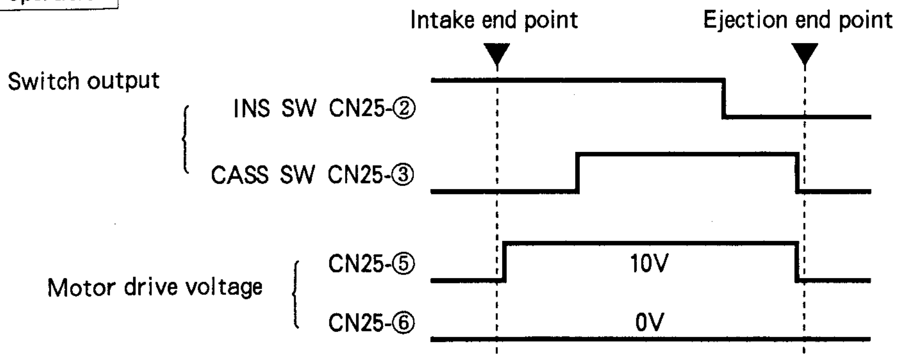
In normal operation


Ejection end point
Intake end point
Switch output
INS SW CN25-②
CASS SW CN25-③
Motor drive voltage
CN25-⑤
0V
CN25-⑥
10V
Overrun 200ms

41: Ejection is not completed.

Code No.	Sensor	Detection manner	Operation	Countermeasure
41 1	Cassette switch (CN25-③) Insert switch (CN25-②)	When cassette ejection operation does not finish within 3 sec.	Ejection operation is once cancelled and the cassette tape is taken in again. Then, ejection operation is tried once more. If the ejection operation for the second time fails, the set enters the AUTO OFF warning mode.	Fault in cassette housing. Fault in IC33 MDA (TA8405S). Fault in cassette or insert switch. Faulty cassette tape.

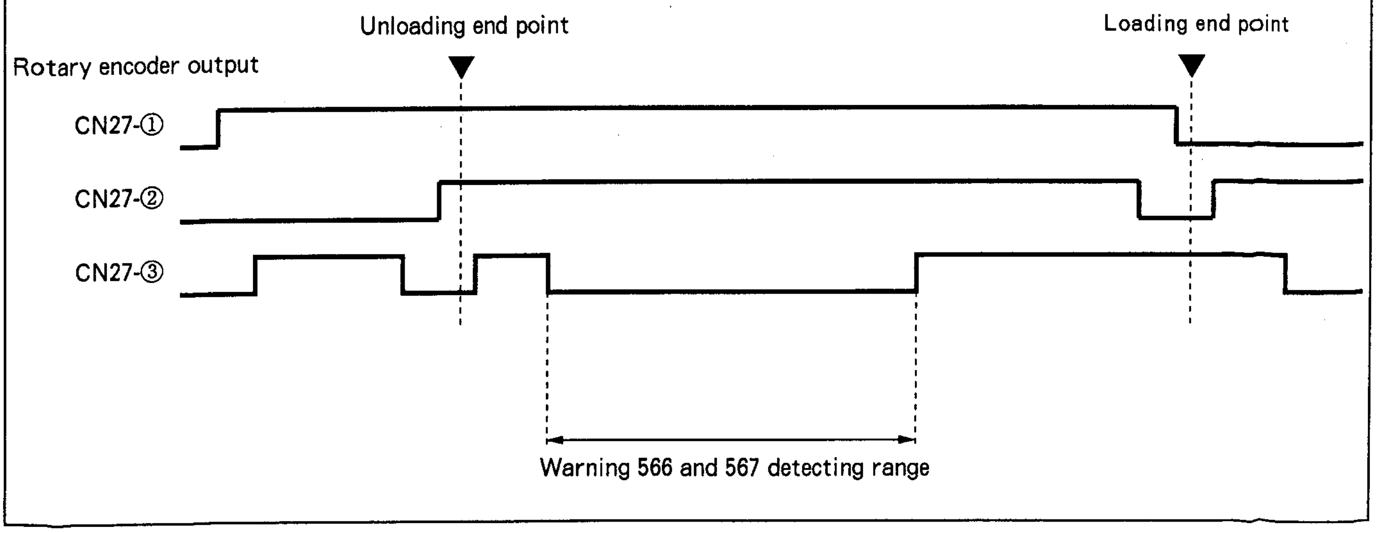
In normal operation


Intake end point
Ejection end point
Switch output
INS SW CN25-②
CASS SW CN25-③
Motor drive voltage
CN25-⑤
10V
CN25-⑥
0V

Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

56:Tape breaking

Code No.	Sensor	Detection manner	Operation	Countermeasure
56 1	SUP. reel FG (IC14pin63)	When reel reversely runs for 3 cm and more in tape length in the Short FF/REW or Skip FWD/REV mode.	Cassette tape is ejected.	Trouble in reel servo circuit. Faulty wiring between reel motor and SERVO/M-CTL board.
56 2	TU. reel FG (IC14pin62)			
56 3	SUP. reel FG (IC14pin63)	When there are more than 40 REEL FG pulses output for the reason that reel motor runs at a high speed exceeding the specified limit with a cassette tape being inserted. Specified speed limit is: When pinch roller is on : 11X speed x 1.1 When pinch roller is off : 140X speed x 1.1. The above limits are determined by calculation of diameter of tape winding and REEL FG pulses.	Cassette tape is ejected.	Trouble in reel servo circuit. Faulty wiring between reel motor and SERVO/M-CTL board.
56 4	TU. reel FG (IC14pin62)			
56 5	Tape beginning sensor (IC21pin37) Tape end sensor (IC21pin36)	When both of tape end and tape beginning are detected for 500 ms or longer in a mode other than loading and unloading at the same time with a cassette tape being inserted. **Each sensor output is 3.5 V or more in normal operation.**	Cassette tape is ejected.	Trouble in tape beginning sensor and tape end sensor. Abnormal orientation of LED for leader tape detection.
56 6	SUP. reel FG (IC14pin63)	When supply reel turns around 7 times or more in unloading mode. (A turning around of supply reel outputs 120 SUP REEL FG pulses.)	Cassette tape is ejected.	Trouble in reel servo circuit. Faulty wiring between reel motor and SERVO/M-CTL board.
56 7	SUP. reel FG (IC14pin63)	When supply reel turns around 5 times or more in loading mode. (A turning around of supply reel outputs 120 SUP REEL FG pulses.)	Cassette tape is ejected.	Trouble in reel servo circuit. Faulty wiring between reel motor and SERVO/M-CTL board.



Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

Code No.	Sensor	Detection manner	Operation	Countermeasure

57:Tape end detection

57 1	Tape end sensor (CN21-④)	When leader tape is not pulled into cassette within 3 sec in Short REW mode. **Tape end sensor output in normal operation is:** **with main portion of tape : 3.5 V or more,** **with leader portion of tape : 1.5 V or less.**	Cassette tape is ejected. Insert cassette tape again, and the warning display is turned out.	Trouble in reel servo circuit. Fault in tape end sensor. Abnormal orientation of LED for leader tape detection. Faulty cassette tape.
57 2	Tape end sensor (CN21-④)	When leader tape is not pulled into cassette within 3 sec in Skip REV mode.		

58:Tape beginning detection

58 1	Tape beginning sensor (CN25-④)	When leader tape is not pulled into cassette within 3 sec in Short FF mode. **Tape beginning sensor output in normal operation is:** **with main portion of tape : 3.5 V or more,** **with leader portion of tape : 1.5 V or less.**	Cassette tape is ejected. Insert cassette tape again, and the warning display is turned out.	Trouble in reel servo circuit. Fault in tape begining sensor. Abnormal orientation of LED for leader tape detection. Faulty cassette tape.
58 2	Tape beginning sensor (CN25-④)	When leader tape is not pulled into cassette within 3 sec in Skip FWD mode.		

70:Drum motor is abnormal.

70 1	DRUM FG (IC14pin65)	DRUM FG pulse is not output for 2 sec or more in a mode that drum motor should be running.	AUTO OFF	Fault in wiring between drum motor and SERVO/M-CTL board. Trouble in drum servo circuit. Faulty drum motor.

71:Capstan motor is abnormal.

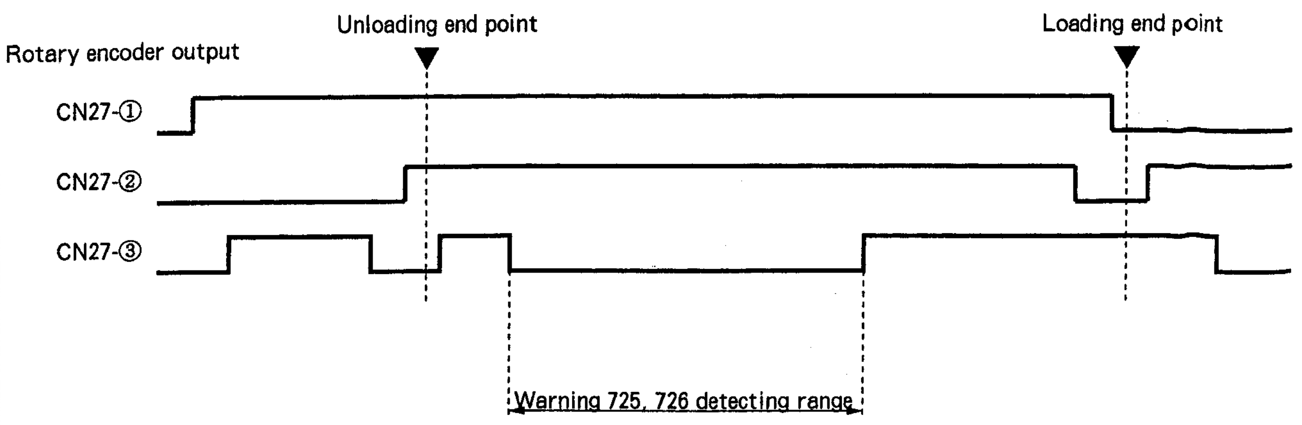
71 1	CAPSTAN FG (IC14pin64)	CAPSTAN FG pulse is not output for 1 sec or more in PLAY, CAP SEARCH or REC mode.	AUTO OFF	Fault in wiring betwen capstan motor and SERVO/M-CTL board. Trouble in capstan servo circuit. Faulty capstan motor.

Symbol No. . indicates part on the SERVO／M-CTL board unless otherwise indicated.

Code No.	Sensor	Detection manner	Operation	Countermeasure

72:Supply reel motor is abnormal.

72 1	SUP REEL FG (IC14pin63) CAPSTAN FG (IC14pin64)	Tape slackening When supply reel does not rotate nevertheless capstan motor is running. (When ratio of SUP REEL FG pulse to CAPSTAN FG pulse is 0 to 3072 or more in number.)	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.
72 2	SUP REEL FG (IC14pin63)	Reel locking When no SUP REEL FG pulse is output in a specific period of time (4 sec to 12 sec) determined by diameter of tape winding.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.
72 3	SUP REEL FG (IC14pin63)	Reel rotating reversely When reel turns reversely for 3 cm in tape length in a mode other than Short FF／REW, Skip FWD／REV. (Tape travel distance to be converted into period is determined by calculation of diameter of tape winding and number of REEL FG pulses.)	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.
72 4	SUP REEL FG (IC14pin63)	Reel overrunning When reel motor runs at a high speed exceeding the specific limit (154X speed) without cassette being inserted and more than 40 SUP REEL FG pulses are output a second.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.
72 5	SUP REEL FG (IC14pin63)	Abnormal reel rotation in unloading mode When supply reel turns only half around or less in unloading mode. (120 SUP REEL FG pulses are output a turning around of supply reel.)	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.
72 6	SUP REEL FG (IC14pin63)	Abnormal reel rotation in loading mode When supply reel turns only half around or less in loading mode. (120 SUP REEL FG pulses are output a turning around of supply reel.)	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO／M-CTL board. Faulty reel motor.



Symbol No. . indicates part on the SERVO/M-CTL board unless otherwise indicated.

73:Take-up reel motor is abnormal

Code No.	Sensor	Detection manner	Operation	Countermeasure
73 1	CAPSTAN FG (IC14pin64) TU REEL FG (IC14pin62)	Tape slackening When take-up reel does not rotate nevertheless capstan motor is running. (When ratio of TU REEL FG pulse to CAPSTAN FG pulse is 0 to 3072 or more in number.)	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO/M-CTL board. Faulty reel motor.
73 2	TU REEL FG (IC14pin62)	Reel locking When no TU REEL FG pulse is output in a specific period of time (4 sec to 12 sec) determined by diameter of tape winding.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO/M-CTL board. Faulty reel motor.
73 3	TU REEL FG (IC14pin62)	Reel rotating reversely When reel turns reversely for 3 cm in tape length in a mode other than Short FF/REW, Skip FWD/REV.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO/M-CTL board. Faulty reel motor.
73 4	TU REEL FG (IC14pin62)	Reel overrunning When reel motor runs at a high speed exceeding the specific limit (154X speed) without cassette being inserted and more than 40 TU REEL FG pulses are output a second.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO/M-CTL board. Faulty reel motor.
73 5	TU REEL FG (IC14pin62)	No detection of tape winding diameter When take-up reel does not turn a quarter round within 3 sec in the mode to detect tape winding diameter just after intake of cassette tape.	AUTO OFF	Trouble in reel servo circuit. Fault in wiring between reel motor and SERVO/M-CTL board. Faulty reel motor. Trouble in mechanism.

Explanation of technical terms

1.Skip FWD:
As the tape beginning is detected in the REW and Search REV modes, the tape is automatically fast forwarded (at 2X speed) to pull the leader tape into the cassette. The condition of this operation is called the Skip FWD mode.

2.Skip REV:
As the tape end is detected in the FF, Search FWD and Play modes, the tape is automatically rewound (at 2X speed) to pull the leader tape into the cassette. The condition of this operation is called the Skip REV mode.

3.Short FF:
When the tape beginning is detected just after intake of a cassette tape, the mechanism automatically fast forwards the tape (at 5X speed) to pull the leader tape into the cassette as the mechanism is in the unloading end state. The condition of this operation is called the Short FF mode.

4.Short REW:
When the tape end is detected just after intake of a cassette tape, the mechanism automatically rewinds the tape (at 5X speed) to pull the leader tape into the cassette as the mechanism is in the unloading end state. The condition of this operation is called the Short REW mode.

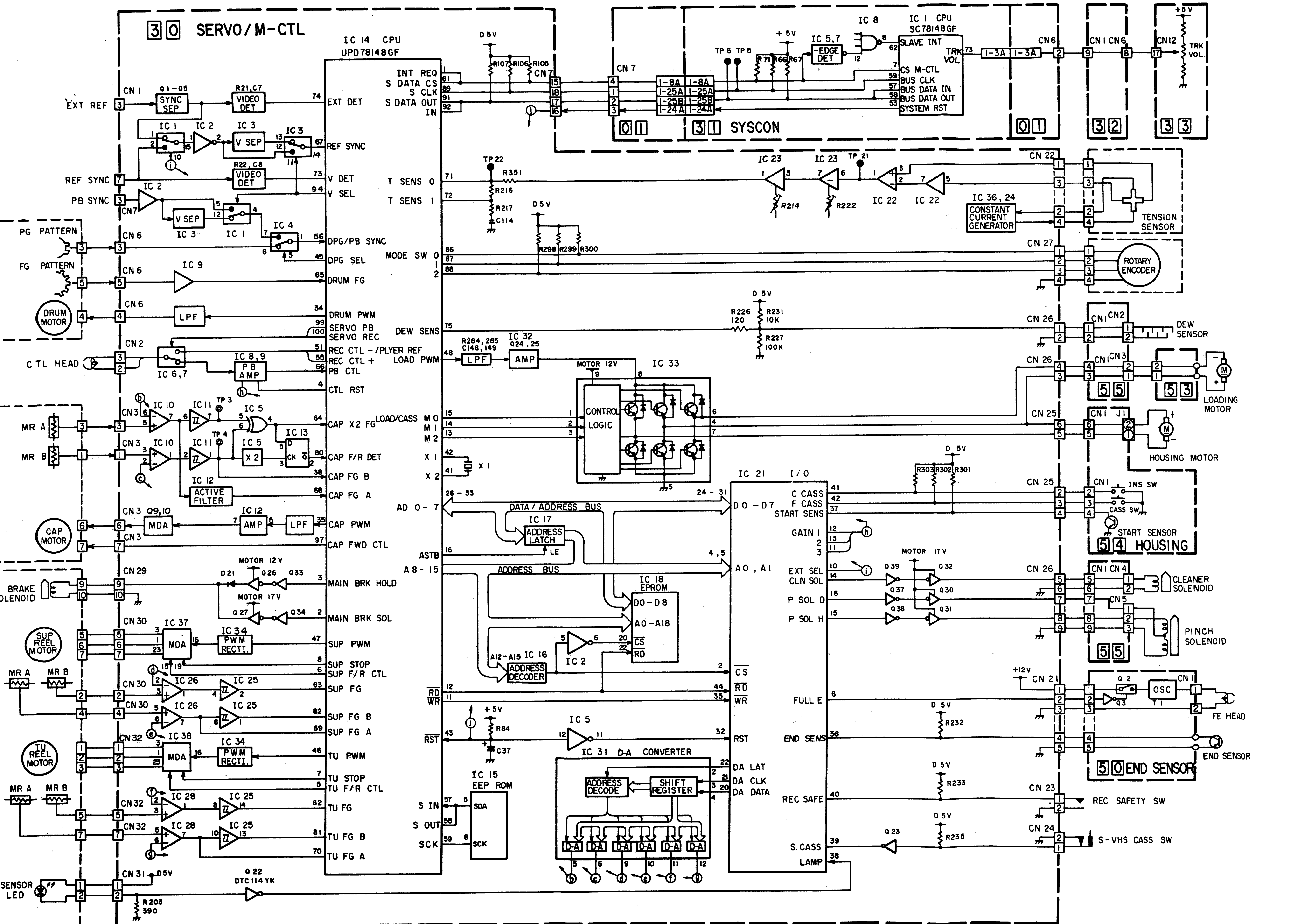
5.Detection of tape winding diamter:
With intake of a cassette tape, this set detects the diameter of tape winding on the supply reel before the mode is shifted to the loading mode. According to detection result, the revolution torque of the supply reel motor for loading is changed to control the tape tension properply to the current tape winding.

(1) The take-up reel motor is turned a quarter round in the FWD direction. ⇒ Revolution of the supply reel during this operation is measured in number.

(2) The tape is taken in the slack.

(3) The supply reel motor is turned in the REV direction to turn the take-up reel a quarter round. ⇒ Revolution of the supply reel during this operation is measured in number.

(4) The higher of two revolutions of the supply reel measured in the above steps (1) and (3) is compared with the revolution (1/4 turn) of the take-up reel to find the ratio between them, and the diameter of tape winding at that time is roughly detected.



30 SERVO / M-CTL
IC 14 CPU UPD78148GF
INT REQ
S DATA CS
S CLK
S DATA OUT
IN
EXT DET
REF SYNC
V DET
V SEL
T SENS 0
T SENS 1
DPG/PB SYNC
DPG SEL
MODE SW 0 1 2
DRUM FG
DRUM PWM
SERVO PB
SERVO REC
DEW SENS
REC CTL - /PLYER REF
REC CTL +
LOAD PWM
PB CTL
CTL RST
LOAD/CASS M 0 M 1 M 2
CAP X2 FG
CAP F/R DET
X 1
X 2
CAP FG B
CAP FG A
AD 0 - 7
CAP PWM
CAP FWD CTL
ASTB
A 8 - 15
MAIN BRK HOLD
MAIN BRK SOL
SUP PWM
SUP STOP
SUP F/R CTL
SUP FG
RD
WR
SUP FG B
SUP FG A
RST
TU PWM
TU STOP
TU F/R CTL
S IN
TU FG
S OUT
TU FG B
SCK
TU FG A
EXT REF
CN 1
Q1-Q5
SYNC SEP
R21, C7
VIDEO DET
IC 1
IC 2
IC 3
V SEP
REF SYNC
R22, C8
VIDEO DET
PB SYNC
CN7
IC 4
PG PATTERN
FG PATTERN
CN 6
IC 9
DRUM MOTOR
LPF
CN 2
CTL HEAD
IC 6,7
IC 8,9
PB AMP
MR A
MR B
CN 3
IC 10
IC 11
TP 3
TP 4
IC 5
X 2
IC 13
IC 12
ACTIVE FILTER
Q9,10
MDA
AMP
CAP MOTOR
CN 29
BRAKE SOLENOID
D21
Q26
Q33
MOTOR 12 V
MOTOR 17 V
Q27
Q34
CN 30
IC 37
IC 34
PWM RECTI.
SUP REEL MOTOR
IC 26
IC 25
CN 32
IC 38
TU REEL MOTOR
IC 28
SENSOR LED
CN 31
D5V
Q 22 DTC114YK
R 203 390
D 5V
R107 R106 R105
CN 7
CN 7
31 SYSCON
01
1-8A 1-25A 1-25B 1-24A
TP 6 TP 5
+5V
R71 R66 R67
IC 5,7 -EDGE DET
IC 8
IC 1 CPU SC78148GF
SLAVE INT
CS M-CTL
BUS CLK
BUS DATA IN
BUS DATA OUT
SYSTEM RST
TRK VOL
1-3A
CN6
CN1 CN6
CN12
32
33
+5V
TRK VOL.
TP 22
R351
R216
R217
C114
IC 23
TP 21
R214
R222
IC 22
CN 22
IC 36, 24
CONSTANT CURRENT GENERATOR
TENSION SENSOR
D 5V
R298 R299 R300
CN 27
ROTARY ENCODER
D 5V
R226 120
R231 10K
R227 100K
CN 26
CN1 CN2
DEW SENSOR
R284,285 C148,149
LPF
IC 32 Q24,25
AMP
MOTOR 12V
IC 33
CONTROL LOGIC
CN1 CN3
55
53
LOADING MOTOR
CN 25
CN1 J1
HOUSING MOTOR
X 1
D 5V
R303 R302 R301
IC 21 I/O
CN 25
C CASS
F CASS
START SENS
INS SW
CASS SW
START SENSOR
54 HOUSING
26 - 33
DATA / ADDRESS BUS
24 - 31
D0 - D7
IC 17
ADDRESS LATCH
LE
4,5
GAIN 1 2 3
A0, A1
ADDRESS BUS
IC 18 EPROM
D0-D8
A0-A18
CS
RD
MOTOR 17 V
EXT SEL
CLN SOL
P SOL D
P SOL H
Q39 Q32 Q37 Q30 Q38 Q31
CN 26
CN1 CN4
CLEANER SOLENOID
CN5
PINCH SOLENOID
55
A12-A15 IC 16
ADDRESS DECODER
IC 2
CS
RD
WR
+12V
CN 21
Q 2
Q3
OSC
T 1
CN 1
FE HEAD
FULL E
D 5V
R232
+5V
R84
C37
IC 5
RST
END SENS
END SENSOR
50 END SENSOR
IC 31 D-A CONVERTER
ADDRESS DECODE
SHIFT REGISTER
D-A D-A D-A D-A D-A D-A
DA LAT
DA CLK
DA DATA
IC 15 EEP ROM
SDA
SCK
D 5V
R233
CN 23
REC SAFE
REC SAFETY SW
D 5V
R235
CN 24
Q 23
S. CASS
S-VHS CASS SW
LAMP

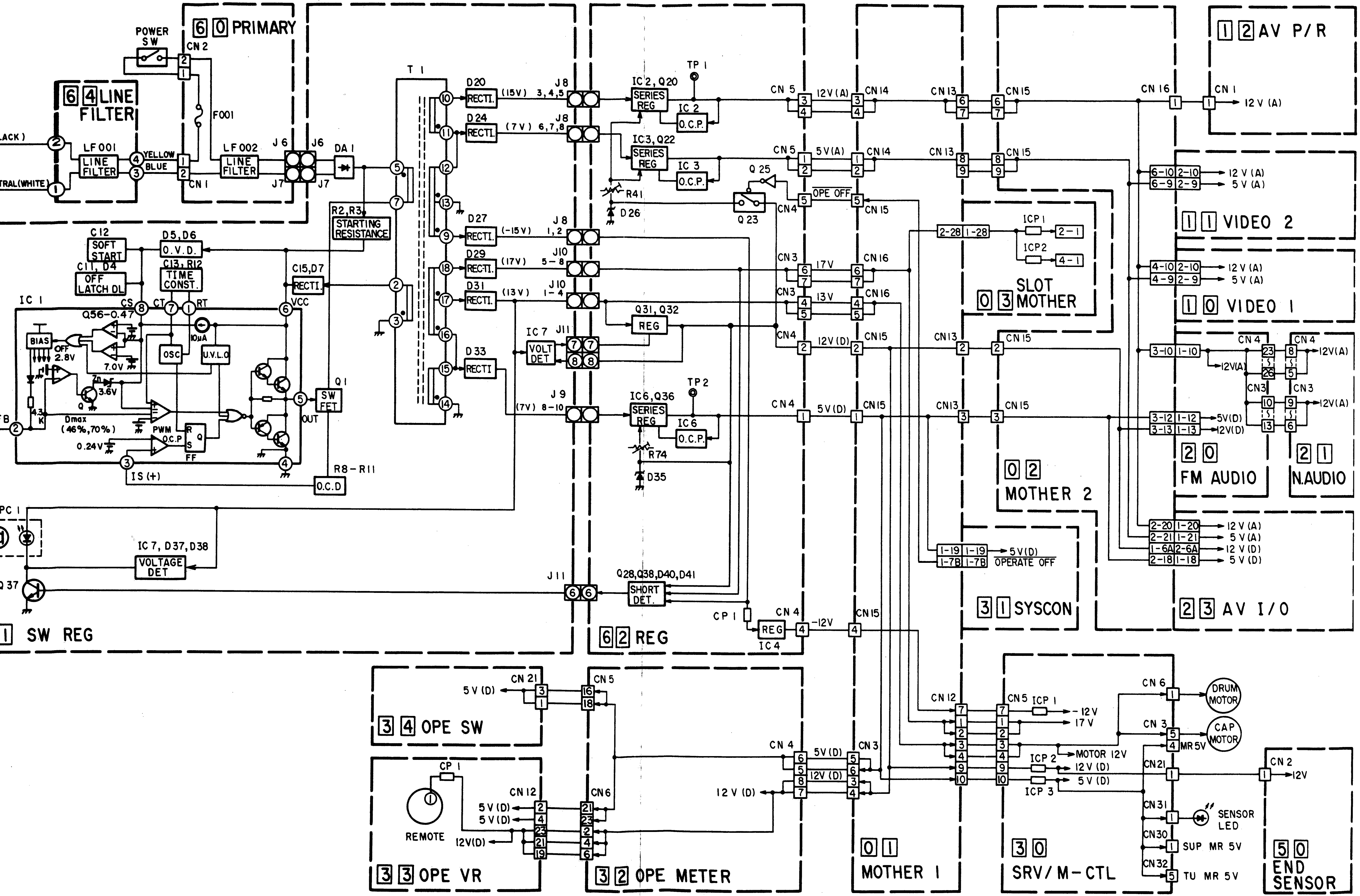

POWER SW
6 0 PRIMARY
CN 2
F001
CN 1
6 4 LINE FILTER
LF 001
LINE FILTER
LF 002
LINE FILTER
YELLOW
BLUE
ACK)
TRAL(WHITE)
J 6
J6
J7
J7
DA 1
T 1
R2,R3
STARTING RESISTANCE
C12
SOFT START
D5,D6
O.V.D.
C11, D4
OFF LATCH DL
C13, R12
TIME CONST.
C15,D7
RECTI.
IC 1
CS
CT
RT
VCC
Q56-0.47
BIAS
OFF
2.8V
7.0V
OSC
U.V.L.O
10μA
Zn
3.6V
4.3K
Dmax
(46%,70%)
PWM
O.C.P
0.24V
FF
IS (+)
OUT
Q 1
SW FET
R8-R11
O.C.D
FB
PC 1
IC 7, D37, D38
VOLTAGE DET
Q 37
1 SW REG
D20
RECTI.
(15V)
3, 4, 5
J 8
D 24
RECTI.
(7 V)
6, 7, 8
J8
D27
RECTI.
(-15 V)
1, 2
J 8
D29
RECTI.
(17V)
5 – 8
J10
D31
RECTI.
(13 V)
1 – 4
J 10
D 33
RECTI
(7V)
8–10
J 9
IC 7
VOLT DET
J11
J 11
IC 2, Q20
SERIES REG
TP 1
IC 2
O.C.P.
IC3, Q22
SERIES REG
IC 3
O.C.P.
R41
D 26
Q 25
Q 23
Q31, Q32
REG
IC6, Q36
SERIES REG
TP 2
IC6
O.C.P.
R74
D35
Q28, Q38, D40, D41
SHORT DET.
CP 1
REG
IC 4
6 2 REG
CN 5
12V (A)
CN 5
5V (A)
CN4
OPE OFF
CN 3
17V
CN3
13V
CN4
12V (D)
CN 4
5 V (D)
CN 4
-12V
CN 14
CN 14
CN 15
CN 16
CN 16
CN15
CN15
CN15
CN 13
CN 13
CN13
CN13
CN 15
CN 15
CN 15
CN 15
2-28
1-28
ICP 1
2-1
ICP2
4-1
0 3 SLOT MOTHER
0 2 MOTHER 2
CN 16
CN 1
12 V (A)
1 2 AV P/R
6-10
2-10
12 V (A)
6-9
2-9
5 V (A)
1 1 VIDEO 2
4-10
2-10
12 V (A)
4-9
2-9
5 V (A)
1 0 VIDEO 1
3-10
1-10
12V(A)
CN 4
CN 4
12V(A)
CN3
CN3
12V(A)
3-12
1-12
5V(D)
3-13
1-13
12V(D)
2 0 FM AUDIO
2 1 N.AUDIO
2-20
1-20
12 V (A)
2-21
1-21
5 V (A)
1-6A
2-6A
12 V (D)
2-18
1-18
5 V (D)
2 3 AV I/O
1-19
1-19
5V(D)
1-7B
1-7B
OPERATE OFF
3 1 SYSCON
CN 21
5 V (D)
3 4 OPE SW
CN 5
CP 1
REMOTE
CN 12
5V (D)
5V (D)
12V(D)
3 3 OPE VR
CN6
CN 4
5V (D)
12V (D)
12 V (D)
CN 3
3 2 OPE METER
0 1 MOTHER 1
CN 12
CN5
ICP 1
- 12V
17V
MOTOR 12V
ICP 2
12 V (D)
5 V (D)
ICP 3
CN 6
DRUM MOTOR
CN 3
CAP MOTOR
MR 5V
CN21
CN31
SENSOR LED
CN30
SUP MR 5V
CN32
TU MR 5V
3 0 SRV/M-CTL
CN 2
12V
5 0 END SENSOR

Fig. 7-4-1 Block diagram of Power supply circuit

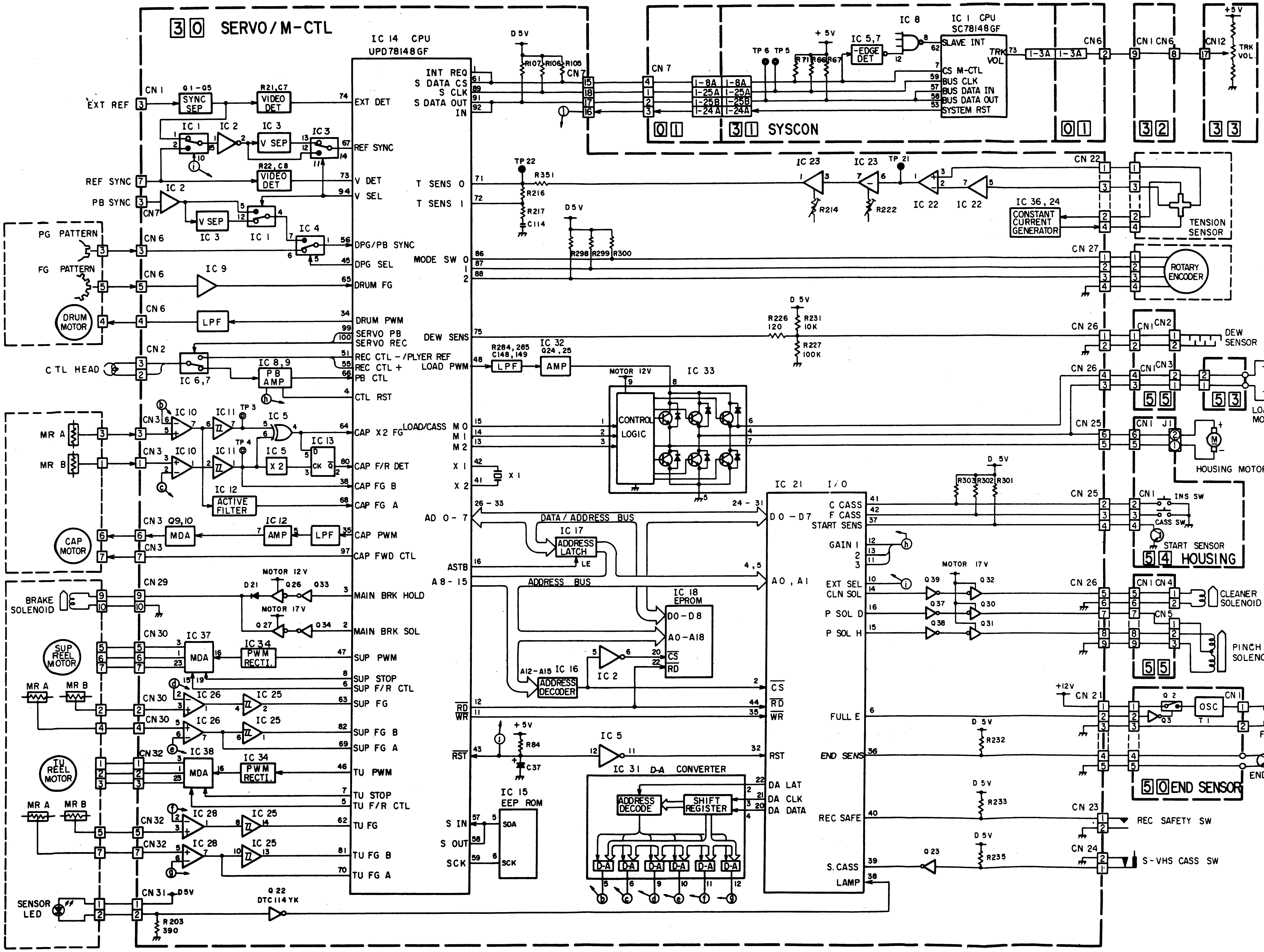

30 SERVO/M-CTL
IC 14 CPU UPD78148GF
INT REQ
S DATA CS
S CLK
S DATA OUT
IN
EXT DET
REF SYNC
V DET
V SEL
DPG/PB SYNC
DPG SEL
DRUM FG
DRUM PWM
SERVO PB
SERVO REC
REC CTL - /PLYER REF
REC CTL +
PB CTL
CTL RST
LOAD PWM
DEW SENS
T SENS 0
T SENS 1
MODE SW 0
1
2
CAP X2 FG
CAP F/R DET
CAP FG B
CAP FG A
CAP PWM
CAP FWD CTL
LOAD/CASS M 0
M 1
M 2
X 1
X 2
AD 0 - 7
ASTB
A8 - 15
MAIN BRK HOLD
MAIN BRK SOL
SUP PWM
SUP STOP
SUP F/R CTL
SUP FG
SUP FG B
SUP FG A
TU PWM
TU STOP
TU F/R CTL
TU FG
TU FG B
TU FG A
RD
WR
RST
S IN
S OUT
SCK
EXT REF
CN 1
Q1 - Q5
SYNC SEP
R21, C7
VIDEO DET
IC 1
IC 2
IC 3
V SEP
R22, C8
REF SYNC
PB SYNC
CN7
IC 4
PG PATTERN
FG PATTERN
DRUM MOTOR
CN 6
IC 9
LPF
CN 2
CTL HEAD
IC 6,7
IC 8,9
PB AMP
MR A
MR B
CN 3
IC 10
IC 11
TP 3
TP 4
IC 5
X 2
IC 13
CK
IC 12
ACTIVE FILTER
CAP MOTOR
Q9,10
MDA
AMP
CN 29
BRAKE SOLENOID
D21
MOTOR 12V
Q26
Q33
MOTOR 17V
Q27
Q34
CN 30
SUP REEL MOTOR
IC 37
IC 34
PWM RECTI.
IC 26
IC 25
CN 32
TU REEL MOTOR
IC 38
IC 28
SENSOR LED
CN 31
D5V
R 203 390
Q 22 DTC114YK
D 5V
R107 R106 R105
CN7
CN 7
1-8A
1-25A
1-25B
1-24A
01
31 SYSCON
TP 6
TP 5
R71 R66 R67
+5V
IC 5,7
-EDGE DET
IC 8
IC 1 CPU SC78148GF
SLAVE INT
TRK VOL
CS M-CTL
BUS CLK
BUS DATA IN
BUS DATA OUT
SYSTEM RST
1-3A
CN6
01
CN1 CN6
32
CN12
+5V
TRK VOL.
33
TP 22
R351
R216
R217
C114
IC 23
TP 21
R214
R222
IC 22
IC 36, 24
CONSTANT CURRENT GENERATOR
CN 22
TENSION SENSOR
R298 R299 R300
CN 27
ROTARY ENCODER
D 5V
R226 120
R231 10K
R227 100K
CN 26
CN1 CN2
DEW SENSOR
R284, 285 C148, 149
IC 32 Q24, 25
MOTOR 12V
IC 33
CONTROL LOGIC
CN1 CN3
55
53
LOADING MOTOR
CN 25
CN1 J1
HOUSING MOTOR
X1
R303 R302 R301
IC 21 I/O
C CASS
F CASS
START SENS
D0 - D7
DATA/ADDRESS BUS
IC 17
ADDRESS LATCH
LE
INS SW
CASS SW
START SENSOR
54 HOUSING
GAIN 1
2
3
A0, A1
ADDRESS BUS
IC 18 EPROM
D0 - D8
A0 - A18
CS
RD
EXT SEL
CLN SOL
P SOL D
P SOL H
Q39
Q32
Q37
Q30
Q38
Q31
CN1 CN4
CLEANER SOLENOID
CN5
PINCH SOLENOID
IC 16
A12 - A15
ADDRESS DECODER
IC 2
CS
RD
WR
+12V
CN 21
Q 2
Q3
OSC
T1
FE HEAD
FULL E
+5V
R84
C37
IC 5
IC 15 EEP ROM
SDA
SCK
IC 31 D-A CONVERTER
ADDRESS DECODE
SHIFT REGISTER
D-A
DA LAT
DA CLK
DA DATA
END SENS
R232
END SENSOR
50 END SENSOR
REC SAFE
R233
CN 23
REC SAFETY SW
Q 23
R235
CN 24
S-VHS CASS SW
S.CASS
LAMP

Fig. 7-3-1 M-CTL circuit block diagram

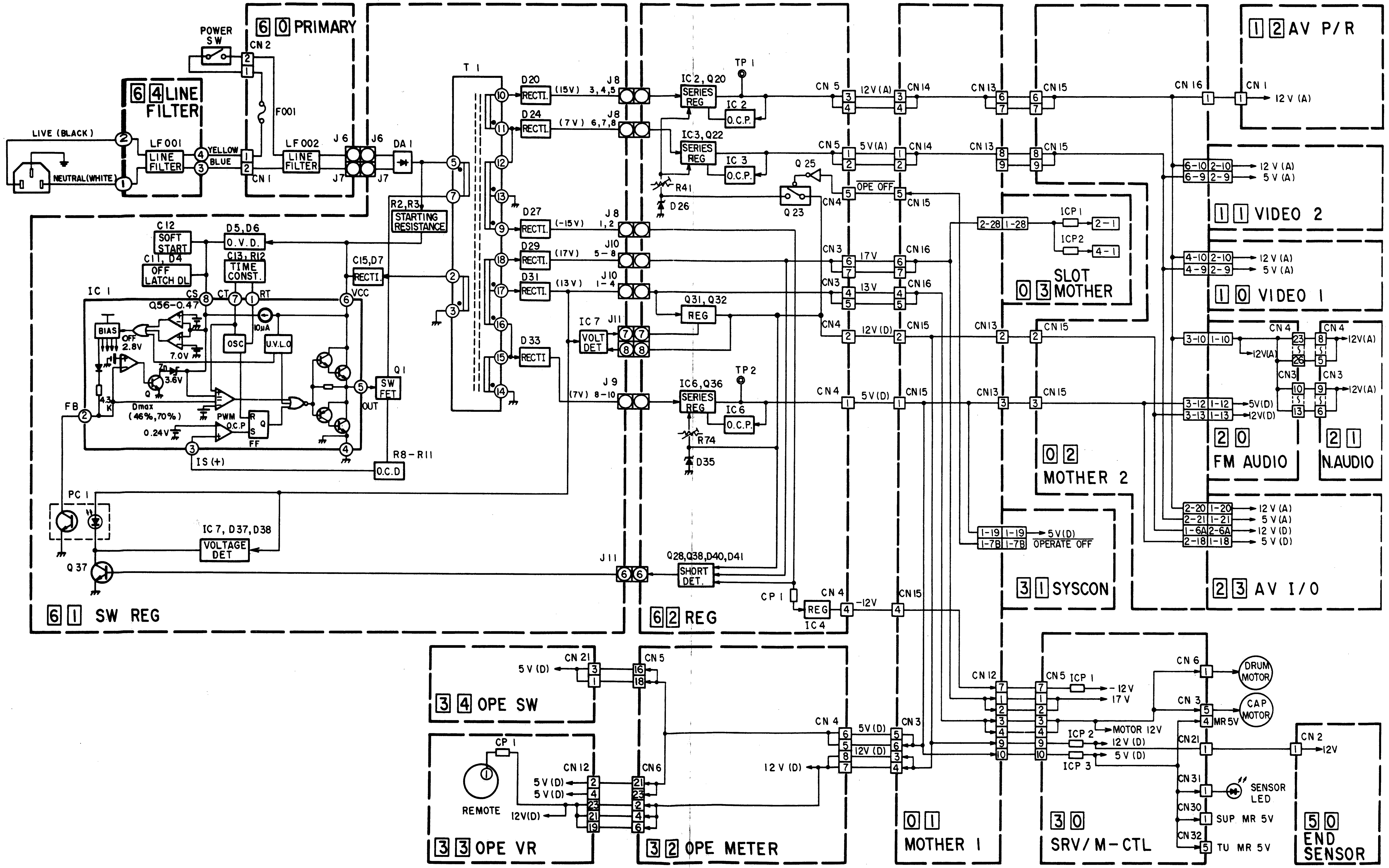

64 LINE FILTER
60 PRIMARY
61 SW REG
62 REG
12 AV P/R
11 VIDEO 2
10 VIDEO 1
03 SLOT MOTHER
02 MOTHER 2
20 FM AUDIO
21 N.AUDIO
31 SYSCON
23 AV I/O
34 OPE SW
33 OPE VR
32 OPE METER
01 MOTHER 1
30 SRV/M-CTL
50 END SENSOR
LIVE (BLACK)
NEUTRAL(WHITE)
LF001
LINE FILTER
LF002
YELLOW
BLUE
POWER SW
CN2
CN1
F001
J6
J7
DA1
T1
R2,R3
STARTING RESISTANCE
C12 SOFT START
D5,D6 O.V.D.
C11, D4 OFF LATCH DL
C13, R12 TIME CONST.
C15,D7 RECTI.
IC1
CS
CT
RT
VCC
Q56-0.47
BIAS
OFF 2.8V
7.0V
3.6V
10μA
OSC
U.V.L.O
Dmax (46%,70%)
PWM
O.C.P
0.24V
FF
FB
IS(+)
OUT
Q1 SW FET
R8-R11 O.C.D
PC1
Q37
IC7, D37, D38 VOLTAGE DET
D20 RECTI. (15V) 3,4,5
D24 RECTI. (7V) 6,7,8
D27 RECTI. (-15V) 1,2
D29 RECTI. (17V) 5-8
D31 RECTI. (13V) 1-4
D33 RECTI
J8
J10
J9 (7V) 8-10
IC7 J11 VOLT DET
J11
IC2, Q20 SERIES REG
IC2 O.C.P.
TP1
IC3, Q22 SERIES REG
IC3 O.C.P.
R41
D26
Q25
Q23
OPE OFF
Q31, Q32 REG
IC6, Q36 SERIES REG
IC6 O.C.P.
TP2
R74
D35
Q28,Q38,D40,D41 SHORT DET.
CP1
REG IC4
-12V
CN5 12V(A) CN14
CN5 5V(A) CN14
CN4
CN15
CN3 17V CN16
CN3 13V CN16
CN4 12V(D) CN15
CN4 5V(D) CN15
CN13
CN16
CN1 12V(A)
6-10 2-10 12V(A)
6-9 2-9 5V(A)
4-10 2-10 12V(A)
4-9 2-9 5V(A)
2-28 1-28
ICP1 2-1
ICP2 4-1
3-10 1-10
12V(A)
3-12 1-12 5V(D)
3-13 1-13 12V(D)
CN4 12V(A)
CN3 12V(A)
2-20 1-20 12V(A)
2-21 1-21 5V(A)
1-6A 2-6A 12V(D)
2-18 1-18 5V(D)
1-19 1-19 5V(D)
1-7B 1-7B OPERATE OFF
CN21 5V(D)
CN5
CN12 5V(D) 5V(D) 12V(D)
CN6
REMOTE
CP1
CN4 5V(D) 12V(D) CN3
12V(D)
CN12
CN5 ICP1 -12V 17V
ICP2 MOTOR 12V 12V(D)
ICP3 5V(D)
CN6 DRUM MOTOR
CN3 CAP MOTOR MR 5V
CN21
CN2 12V
CN31 SENSOR LED
CN30 SUP MR 5V
CN32 TU MR 5V

Fig. 7-4-1 Block diagram of Power supply circuit

7.4 POWER SUPPLY CIRCUIT

7.4.1 Operation of switching circuit

Switching power is controlled by IC1 (FA5311P). In detail, as IC1 turns on the switching MOS FET Q1, current flows into the primary coil of the transformer T1. At that time, current does not flow to the secondary coil of T1 since voltage at the secondary coil is applied to the rectifier circuit (D20, D24, D29, D31, D33) in the reverse direction (D27 is supplied with current).
Next, IC1 turns off Q1 and the primary coil resultantly generates counter electromotive force, then current flows to the rectifier circuit of the secondary side to maintain the same ampere return as Q1 is on.

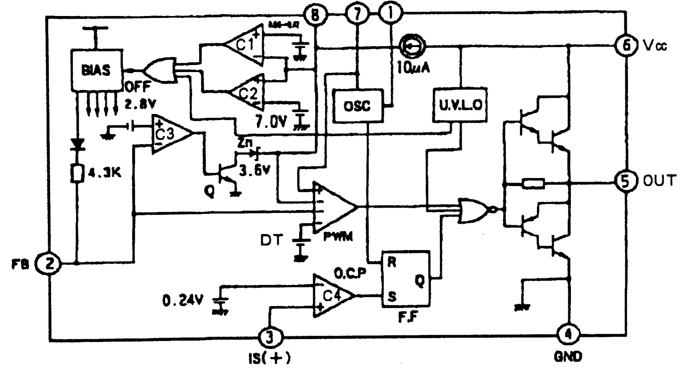


Fig.7-4-1 FA5311P Block diagram

7.4.2 IC1 FA5311P

(1) Oscillation frequency

$$f[\text{kHz}] = \frac{10}{4 \times R_T[\text{k}\Omega] \times C_T[\text{pF}]} \fallingdotseq 65\ [\text{kHz}]$$

(2) PWM comparator

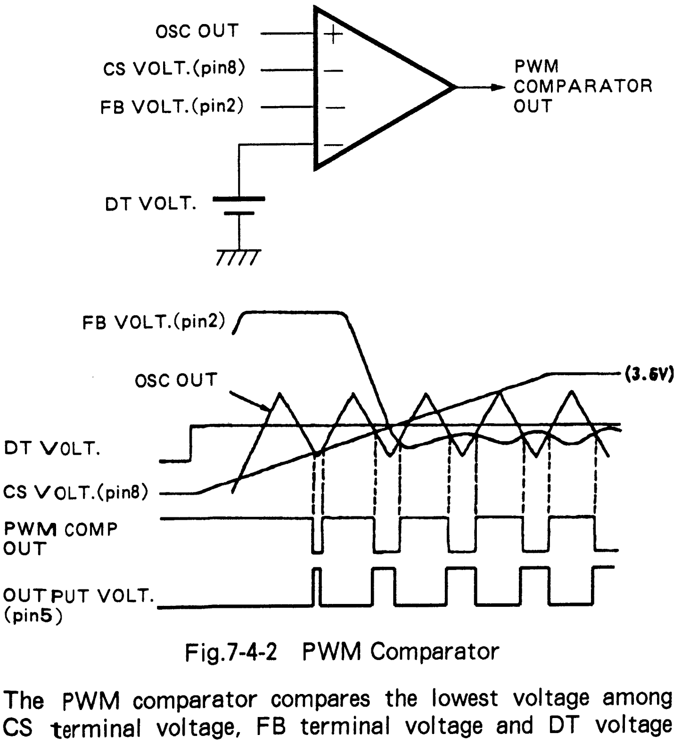


Fig.7-4-2 PWM Comparator

The PWM comparator compares the lowest voltage among CS terminal voltage, FB terminal voltage and DT voltage with the oscillator output.
DT voltage for regulating the maximum duty cycle is set to a voltage with which the maximum duty ratio is set at 70 %.

(3) Soft start

When the power is supplied to the set, the constant-current regulated power (10 μA) supply circuit inside IC1 starts charging to C12 that is externally attached to the CS terminal. Therefore, CS terminal voltage gradually goes up, and the output pulse width is accordingly widened to actuate the set with soft start.

(4) Power cutoff function in case of overload

When output voltage drops down for the reason of overload and shortcircuit, etc., FB terminal voltage goes up. If FB terminal voltage exceeds 2.8 V, output of the comparator C3 becomes low and the zener diode is unclamped in the IC. As a result, C12 to activate soft start is charged again and CS terminal voltage goes up, too. If this voltage exceeds 7 V, output of the internal comparator C2 becomes high and the bias circuit is turned off. Therefore, IC1 enters the off-latch mode and cuts off the output.
The above condition is canceled when the supply voltage (Vcc) is regulated under 8.7 V.

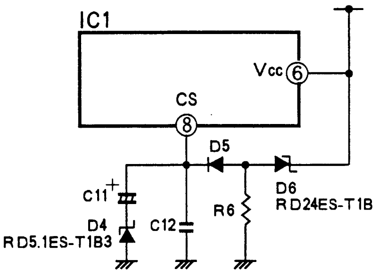


Fig. 7-4-3 External circuit of CS terminal

D4 and C11 that are externally attached to the CS terminal compose a circuit to delay the time to enter the IC into the off-latch mode.
When CS terminal voltage goes up nearly to 5 V, D4 is turned on and C11 is charged, therefore, CS terminal voltage gradually goes up. This operation avoids undesirable action of the power cutoff function such as in momentary overload resulting from turning on of the solenoid.

(5) Over-voltage interrupting function

When Vcc of IC1 exceeds 24 V, CS terminal voltage goes up by the function of the zener diode D6. If this voltage exceeds 7V, the power supply cutoff function is activated as well as the case of overload.

(6) Malfunction prevention circuit against low supply voltage (U.L.V.O.)

To prevent malfunction caused by low supply voltage, IC1 internally employs the malfunction prevention circuit against low supply voltage. When the supply voltage is raised from 0V, IC1 starts operation with 16 V of Vcc, on the other hand, when the supply voltage is dropped down, it is activated to cut off output with 8.7 V of Vcc.
When this circuit is activated once, turn down the level of the CS terminal to reset the circuit.

(7) Over-current protector circuit

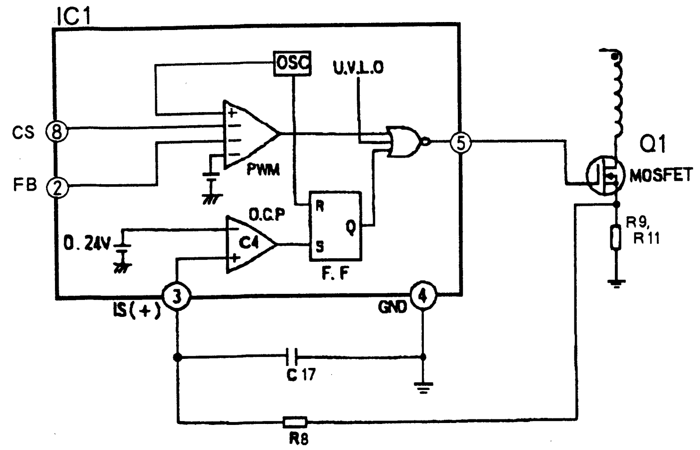


Fig.7-4-4 Over current protector circuit

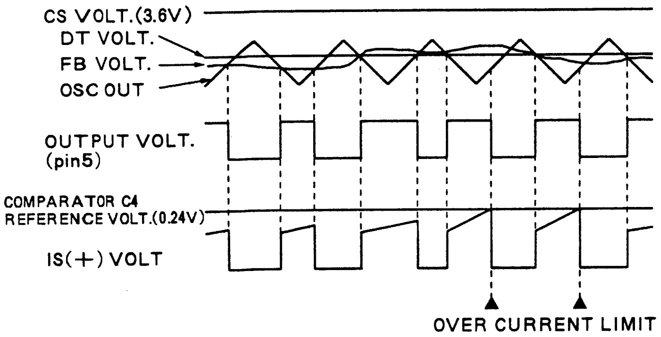


Fig.7-4-5 Over current protector timing chart

The over-current protector circuit is a pulse-by-pulse type circuit which detects peak level of drain current of Q1, the switch MOS FET, at every pulse output.

The circuit consisting of R9 and R11 converts drain current of Q1 into voltage signal, which is supplied to the IS terminal of IC1. If this voltage exceeds the reference voltage of the comparator C4 inside IC1, C4 outputs high level signal to set the flip-flop circuit. Accordingly, IC1 cut off the output to interrupt the over-current.

The flip-flop circuit again starts operation to be reset in the next cycle of OSC output.

7.5 AUTOMATIC ADJUSTMENT FUNCTIONS

7.5.1 Outline

This model. reduces adjustment items in number because adjustments of the audio and servo systems are partially automatized.
Adjustment items automatized in this model are shown below.

Servo system
① Adjustment of REEL FG duty ratio
② Adjustment of CAP FG duty ratio
③ Adjustment of stop servo (CAP FG gain adjustment)
④ Adjustment of PB switching point

Audio system
① Adjustment of normal audio PB level
② Adjustment of normal audio PB frequency response
③ Adjustment of Hi-Fi audio PB level
④ Adjustment of normal audio REC level
⑤ Adjustment of normal audio REC frequency response
⑥ Adjustment of EE level

7.5.2 Automatic adjustments for servo system

(1) Operation to start automatic adjustments

FG duty ratio, stop servo adjustment

① Set the adjustment mode to "04".
(a) Turn off the power switch.
(b) Turn on the power switch, and press the COUNTER RESET, FF and REW buttons simultaneously within 2 sec after the counter display is on.
(c) Press the MENU (UP) button or the SET (DOWN) button continually until "04" appears in the counter display.
② Press the IN/+SHIFT or OUT/-SHIFT button.
③ Automatic adjustment starts. Then the mode of the set changes as follows.
(a) Reel motor rotates.
(SUP/TU REEL FG duty ratio automatic adjustment mode)
(b) Capstan motor rotates.
(CAP FG duty ratio automatic adjustment mode)
(c) Step slow mode
(Stop servo automatic adjustment mode)
④ When the above automatic adjustments are completed, "04 End" appears in the counter display.

PB switching point adjustment

① Set the adjustment mode to "0F".
② Play back the MHPE alignment tape.
③ Align the tracking correctly.
④ Press the IN/+SHIFT or OUT/-SHIFT button.
⑤ Automatic adjustment starts. When the automatic adjustment is completed, "0F End" appears in the counter display.

(2) FG duty ratio automatic adjustment circuit

The purpose of FG duty ratio adjustment is to shape feeble output (sine wave) of the MR element installed for detecting rotation speed and rotating direction of each motor to be a rectangular waveform of 50 % duty ratio.
Accordingly, irregularity in the characteristics of MR elements is electrically removed. Therefore, the FG duty ratio adjustment must be performed after either of the capstan motor and reel motor is replaced.
Actually, there are six FG duty ratio adjustment circuits provided in this set since each motor has two built-in MR elements (A, B).
The following explains about the automatic adjustment circuit for CAPSTAN FG A pulse by way of example.

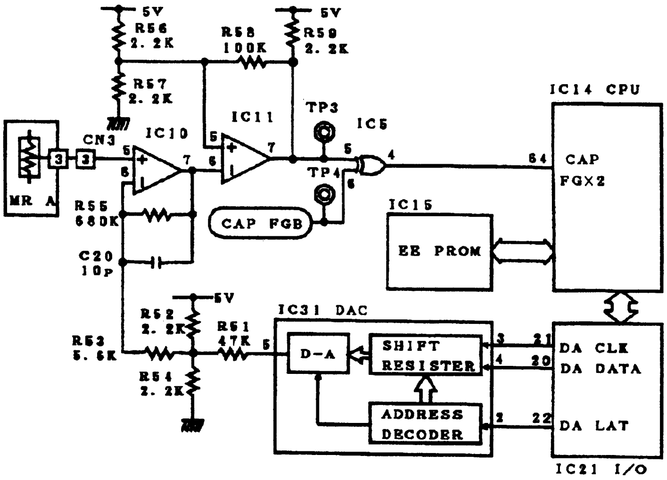

5V
R56
2.2K
R58
100K
5V
R59
2.2K
R57
2.2K
IC14 CPU
IC11
TP3
IC5
CN3
IC10
MR A
3
3
5
6
7
5
6
7
5
4
6
TP4
64
CAP
FGX2
R55
680K
CAP FGB
IC15
EE PROM
C20
10p
5V
R52
2.2K
R51
47K
IC31 DAC
R53
5.6K
D-A
SHIFT
RESISTER
3
21
4
20
DA CLK
DA DATA
R54
2.2K
ADDRESS
DECODER
2
22
DA LAT
IC21 I/O

Fig. 7-5-1 FG duty ratio automatic adjustment circuit

Simply explaining the operation, the CPU of IC14 transforms DC voltage output from the D-A converter while measuring the CAPSTAN FG duty ratio. When the duty ratio becomes 50 %, the CPU writes the data in the EEPROM of IC15.

Detailed operation of the CPU IC14 is as follows.
① The CPU starts the capstan motor.
② It regulates the D-A converter output for CAP FG B pulse to 0 V. As a result, there is no CAP FG B output at TP4 and the CPU (pin 64, IC14) is supplied only with CAP FG A pulse.
③ The D-A converter (pin 5, IC31) outputs 2.5 V.
④ The duty ratio at that time is measured. (average of three measurement results)
⑤ If the duty ratio is 40 to 60 %, the CPU commences motor speed control and measures duty ratio again. (average of 768 measurement results)
⑥ According to the lastly measured duty ratio, the CPU decides the voltage to be output from the D-A converter. In detail, the CPU changes the voltage so as to set the duty ratio to 50 % as shown in the figure below.

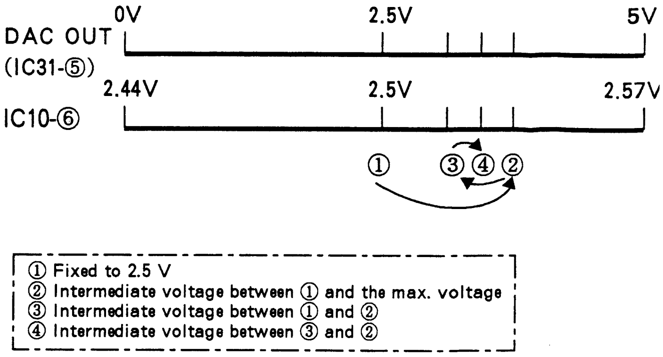

0V
2.5V
5V
DAC OUT
(IC31-⑤)
2.44V
2.5V
2.57V
IC10-⑥
①
③
④
②
① Fixed to 2.5 V
② Intermediate voltage between ① and the max. voltage
③ Intermediate voltage between ① and ②
④ Intermediate voltage between ③ and ②

Fig. 7-5-2 Change in output voltage of D-A converter

⑦ The CPU writes the 8th D-A converter output data in the EEPROM IC15.
(If 50 % duty ratio is obtained before the 8th measurement, measurement is suspended and the last data is written in the EEPROM.)

(3) Stop servo automatic adjustment

The stop servo circuit functions to fix the stop point of the capstan motor electrically, and it starts operation as the tape speed is slowed down nearly to 1/10X speed.

Motor drive voltage generated by the CPU during stop servo operation has such a waveform as shown in Fig. 7-5-3, and it is yielded by folding back the CAP FG A pulse at 2.5 V.

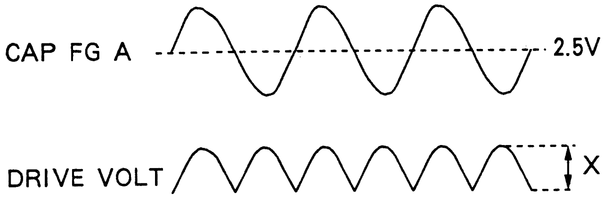

CAP FG A
2.5V
DRIVE VOLT
X

Fig. 7-5-3 Waveform of capstan motor drive voltage

Compared with previous models that needs gain adjustment to make the level X (in the above figure) constant since the level of CAP FG A depends on motor's peculiarity, this model automatically adjusts the gain by the function employed in the CPU.

The CPU first measures input level of FG pulse (at pin 68 of IC14) to make the drive voltage constant in stop servo operation.
For this level measurement, the motor is required to run at a 1/100X speed approximately for yielding CAP FG pulse without distortion.
However, this is a theoretical requirement and it is impossible in practical operation.
Therefore, this model utilizes the step slow mode for FG level measurement and measures FG level just before the tape running is stopped.
According to the mean FG level (average of 24 measurement results), the CPU calculates a constant to output drive voltage at a specific level and writes it in the EEPROM.

(4) PB switching point automatic adjustment

PB switching point adjustment is necessary for correct change of DRUM FF polarity that is used as information of video head position.

Since DRUM FF signal is obtained by delaying DRUM PG signal, the PB switching point adjustment changes the delay time so that the polarity of DRUM FF changes 6.5 H before V. sync as the MHPE alignment tape is played back. This model automatizes this adjustment by the CPU.

① The CPU IC14 inputs DRUM PG, PB V. SYNC and PB H. SYNC signals through one input port (pin 56) by time-division method as well as done in the BR-S822.
② The CPU changes delay time of DRUM PG to yield DRUM FF and calculates data so as to obtain 6.5 H as a period from DRUM FF to PB V. sync. (The CPU changes delay time from the large amount of DRUM FF's delay .)
③ The CPU repeats data measurement six times to obtain a mean value of four measurement results excluding the largest and smallest ones, and writes it in the EEPROM.

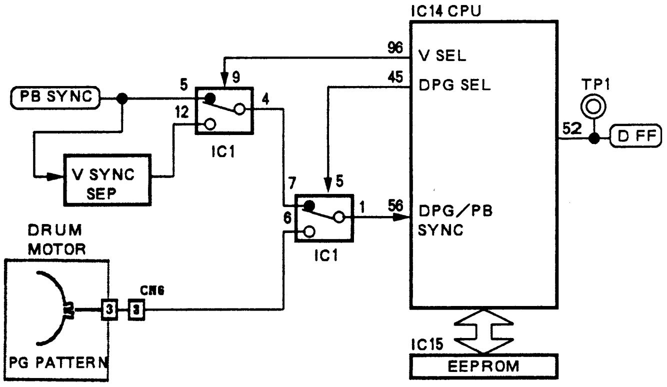

IC14 CPU
96
V SEL
45
DPG SEL
TP1
52
D FF
PB SYNC
5
9
12
4
IC1
V SYNC SEP
7
5
6
1
56
DPG/PB SYNC
IC1
DRUM MOTOR
CN6
3
3
PG PATTERN
IC15
EEPROM

Fig. 7-5-5 PB switching point automatic adjustment circuit (SERVO/M-CTL board)

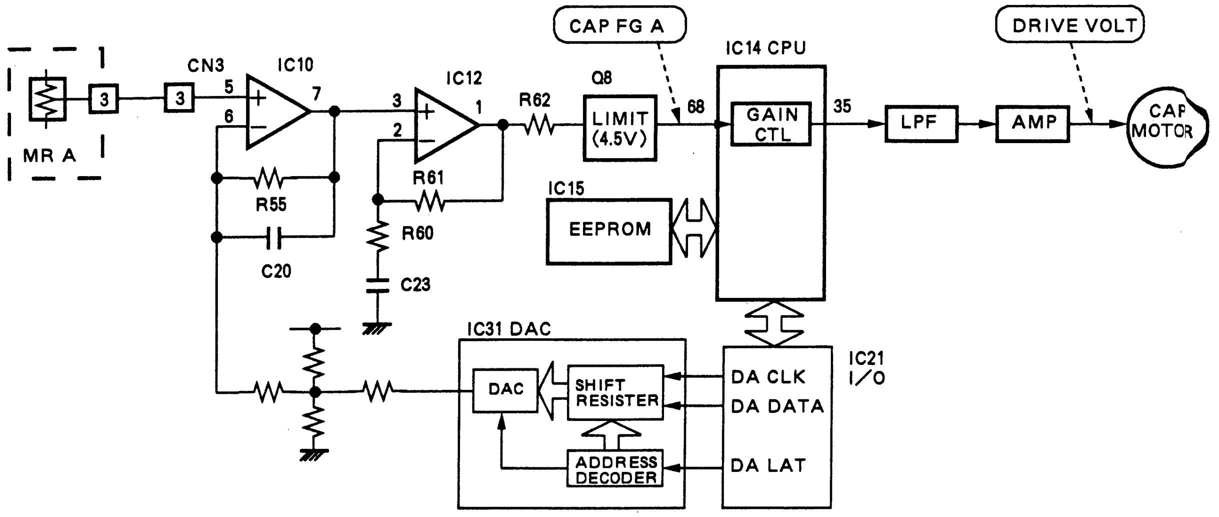

MR A
3
CN3
3
5
6
IC10
7
IC12
3
2
1
R62
R55
R61
R60
C20
C23
CAP FG A
Q8
LIMIT (4.5V)
68
IC14 CPU
GAIN CTL
35
LPF
AMP
DRIVE VOLT
CAP MOTOR
IC15
EEPROM
IC31 DAC
DAC
SHIFT RESISTER
ADDRESS DECODER
DA CLK
DA DATA
DA LAT
IC21 I/O

Fig. 7-5-4 Stop servo automatic adjustment circuit (SERVO/M-CTL board)

7.5.3 Automatic adjustment functions for audio system

(1) Table of audio system adjustment modes

There are two kinds of adjustment modes (automatic adjustment and manual adjustment) provided for the audio system, and either of adjustment modes is usable.

	Adjustment mode No.	Adjustment item
Manual adjustment	11	EE level adjustment
	12	PB level adjustment
	13	PB frequency response adjustment
	14	REC level adjustment
	15	REC frequency response adjustment
	16	Initialization of adjustment value
Automatic adjustment	17	Overall automatic adjustment (for factory use)
	18	Normal audio PB level adjustment
	19	Normal audio PB frequency response adjustment
	1A	Hi-Fi audio PB level adjustment
	1B	Normal audio REC level adjustment
	1C	Normal audio REC frequency response adjustment
	1D	Hi-Fi audio deviation adjustment
	1E	REC mode automatic adjustment

Table 7-5-1 Table of audio system adjustment modes

(2) Operation procedure

① Turn off the power switch.
② Turn on the power switch again and press the COUNTER RESET, FF and REW buttons simultaneously within 2 sec after the counter display is on.
③ Press the MENU (UP) or SET (DOWN) button continually until the desired adjustment No. appears in the counter display.

[Manual adjustment]
Manual adjustment procedure is the same as for previous models, namely, input required signal through the LINE IN terminal and connect a measuring instrument to the LINE OUT terminal.

④ Select a channel desired for adjustment with the AUDIO MONIOR switch.
CH1: for adjustment of CH1 only
CH2: for adjustment of CH2 only
MIX: for adjustment of both channels (BR-S800 only)
⑤ Select normal audio or Hi-Fi audio with the AUDIO MONITOR switch.
⑥ Switching between S-VHS and VHS modes depends on the type of cassette tape inserted.
⑦ Manual adjustment is effectuated by pressing the COUNTER RESET button.
⑧ Use the REC LEVEL VRs (TRACKING VR for BR-S500) for adjustment.
⑨ Adjustment value is written in the EEPROM by pressing the AUTO MODE switch.

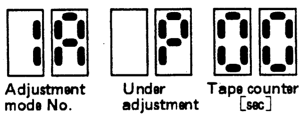
[Automatic adjustment]
Automatic adjustment needs neither connection of measuring instrument nor change of menu switch setting. (Actually, NR and Limiter circuits are off, and menu switch setting is accordingly unchanged.)

Note 1: Set the TRACKING VR to the center position.
Note 2: Proceed in the order of the adjustment mode numbers except No. 17.
Note 3: Do not use the adjustment mode No. 17 since this is provided for factory use only.

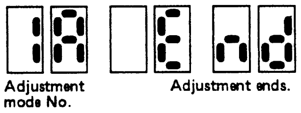
④ Pressing the COUNTER RESET button effectuate automatic adjustment mode.
⑤ When adjustment is completed, "End" appears in the counter display and the cassette tape is ejected.

In automatic adjustment the following indications appear in the counter display.

During adjustment

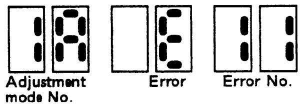


When adjustment ends



If adjustment error occurs, the following indications appear in the counter display.

When adjustment error occurs



Error No.	Detail of error
E11	Error in normal audio CH1 PB level adjustment
E12	Error in normal audio CH2 PB level adjustment
E13	Error in Hi-Fi audio L-ch PB level adjustment
E14	Error in Hi-Fi audio R-ch PB level adjustment
E15	Error in normal audio CH1 REC level adjustment
E16	Error in normal audio CH2 REC level adjustment
E17	Error in Hi-Fi audio L-ch deviation adjustment
E18	Error in Hi-Fi audio R-ch deviation adjustment
E19	Error in normal audio CH1 PB frequency response adjustment
E1A	Error in normal audio CH2 PB frequency response adjustment
E1B	Error in normal audio CH1 REC frequency response adjustment
E1C	Error in normal audio CH2 REC frequency response adjustment
E1D	Misinsertion of cassette tape

Table 7-5-2 Table of error numbers

(3) Initialization of adjustment value

The adjustment mode No. 16 is provided to preset the theoretical design values in the EEPROM.
If the EEPROM IC10 on the FM AUDIO board is replaced, the set is enabled to record and play back without performing respective adjustments. For actual use, however, make sure to adjust respective items to obtain better sound since the preset values are theoretical to the last.

① Take the cassette tape out of the set and then turn off the power switch.
② Turn on the power switch again, and press the COUNTER RESET, FF and REW buttons simultaneously within 2 sec after the counter display is on.
③ Press the MENU (UP) or SET (DOWN) button continually until the adjustment No. 16 appears in the counter display.
④ After pressing the COUNTER RESET button, press the AUTO MODE button to write the preset values in the EEPROM.

(4) Automatic adjustment mode

In the automatic adjustment modes (No. 17 through No. 1E) respective adjustments shown in Table 7-5-3 are performed automatically under control of the CPU of IC9 on the FM AUDIO board.

For carrying out the automatic adjustments, this model employs VCAs (Voltage Controlled Amplifier) as adjustment VRs, therefore, signal level is varied as the CPU controls output voltage of the D-A converter.
On the other hand, DC voltage generated by rectifying LINE OUT signal is supplied to the A-D input port (pin 58) of the CPU to enable it to measure output signal level.

(a) PB level adjustment

With playback of the 1 kHz reference signal of the alignment tape, the VCA for PB level adjustment is controlled so that the LINE OUT signal meets the specifications in the level.

(b) EE level adjustment

The CPU supplies the 1 kHz signal having the reference level from the PWM output terminal (pin 78) to the audio circuit. The automatic adjustment controls the VCA for EE level adjustment so that the LINE OUT signal meets the specifications in the level.
The VCA for normal audio EE level adjustment generally serves as the REC level adjustment VR on the front panel.

Adjustment item		Adjustment mode No.								Signal	REF. SIG.	SIG. CTL1	SIG. CTL2	GAIN CTL	GAIN CTL2	Level control terminal
		No. 17	No. 18	No. 19	No. 1A	No. 1B	No. 1C	No. 1D	No. 1E		IC9 -40	IC9 -39	IC9 -38	IC9 -16	IC9 -17	
Pilot signal search		◎								—	H	L	H	L	L	—
Normal audio CH1 PB level (1kHz)		◎	◎							Playback of MBAE alignment tape	H	L	H	L	H	IC7pin8 (N. AUD PWB)
Normal audio CH2 PB level (1kHz)		◎	◎							Playback of MBAE alignment tape	H	H	L	L	H	IC8pin8 (N. AUD PWB)
Normal audio CH1 PB frquency response (400Hz ⇒ 8kHz)		◎		◎						Playback of MH-8 alignment tape	H	L	H	H	L	IC7pin10 (N. AUD PWB)
Normal audio CH2 PB frquency response (400Hz ⇒ 8kHz)		◎		◎						Playback of MH-8 alignment tape	H	H	L	H	L	IC8pin10 (N. AUD PWB)
Hi-Fi audio L-ch PB level (1kHz)		◎			◎					Playback of MH-F8/MBAFE-2 alignment tape	H	L	L	L	L	IC5pin8 (FMAUD PWB)
Hi-Fi audio R-ch PB level (1kHz)		◎			◎					Playback of MH-F8/MBAFE-2 alignment tape	H	H	H	L	L	IC5pin10 (FMAUDPWB)
Normal audio CH1 EE level		◎				◎	◎		◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	L	H	L	L	IC9pin8 (N. AUD PWB)
Normal audio CH2 EE level		◎				◎	◎		◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	H	L	L	L	IC10pin8 (N. AUD PWB)
Normal audio REC level	REC mode	◎				◎			◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	L	H	L	L	IC9/IC10pin10 (N. AUD PWB)
	CH1 adj. (PB mode)	◎				◎			◎	Play back selfrecorded signal.	H	L	H	L	L	–
	CH2 adj. (PB mode))	◎				◎			◎	Play back selfrecorded signal.	H	H	L	L	L	–
Normal audio REC frequency response	REC mode	◎					◎		◎	8 kHz pulse	H	L	H	H	L	Q201/Q202-B (N. AUD PWB)
	CH1 adj. (PB mode)	◎					◎		◎	Play back selfrecorded signal.	H	L	H	H	L	–
	CH2 adj. (PB mode))	◎					◎		◎	Play back selfrecorded signal.	H	H	L	H	L	–
Hi-Fi audio deviation	REC mode	◎						◎	◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	L	L	L	L	IC2pin2/pin62 (FMAUDPWB)
	CH1 adj. (PB mode)	◎						◎	◎	Play back selfrecorded signal.	H	L	L	L	L	–
	CH2 adj. (PB mode))	◎						◎	◎	Play back selfrecorded signal.	H	H	H	L	L	–
Hi-Fi audio L-ch EE level		◎						◎	◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	L	L	L	L	IC5pin8 (FMAUD PWB)
Hi-Fi audio R-ch EE level		◎						◎	◎	PWM 24 kHz carrier, 1 kHz modulated wave	H	H	H	L	L	IC5pin10 (FMAUD PWB)

Table 7-5-3 Function table of automatic adjustment modes

As shown in Fig. 7-5-6, the CPU outputs modulated-wave signal that 1 kHz signal is modulated in pulse width with 24 kHz carrier. This makes easy to remove higher harmonic component which is included in rectangular wave. This signal is converted into sine wave by an external LPF and then supplied to the audio circuit.

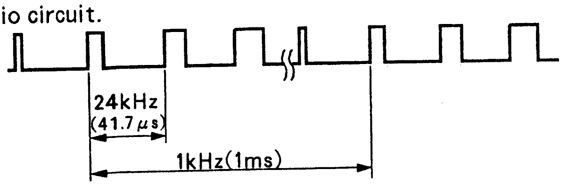

24kHz
(41.7μs)
1kHz(1ms)

Fig. 7-5-6 Modulated-wave 1 kHz signal

(c) REC level adjustment

This set has no need of repeated operations of recording and playback for REC level adjustment as done for previous models, but requires recording and playback just once.

① The set enters in the REC mode.
② The CPU output 1 kHz signal of reference level from the PWM output terminal.
③ Controlling the VCA for REC level adjustment, the CPU raises signal level to be recorded on the tape by 0.5 dB every 2 seconds in 15 steps (±3.5 dB to the theoretical value). At that time, the CPU utilizes the value indicated by the tape counter for changing the REC level.

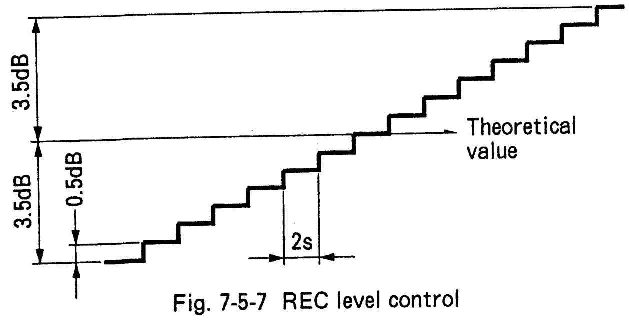


Fig. 7-5-7 REC level control

④ The CPU finalizes the REC level according to the value of the tape counter as the playback signal level meets the specifications.

(d) Normal audio PB frequency response adjustment

As the alignment tape (MH-8) on which 400 Hz and 8 kHz signals are recorded at the level of -20 dB is played back, the CPU adjusts the level of the 8 kHz signal so that it becomes 0 dB to that of the 400 Hz signal.

① The CPU searches the 400 Hz signal segment in the Search mode. (For detecting the frequency of a PB signal, the CPU inputs the PB signal through pin 2 (EV2).)
② The PB level of the 400 Hz signal is stored in the memory.
③ The 8 kHz signal segment is searched in the Search mode.
④ The CPU adjusts the VCA of the adding equalizer so that the PB level of the 8 kHz signal becomes 0 dB to the PB level of the 400 Hz signal.

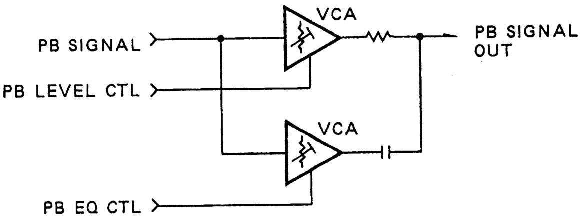

VCA
PB SIGNAL
PB SIGNAL OUT
PB LEVEL CTL
VCA
PB EQ CTL

Fig. 7-5-8 Adding equalizer circuit

(e) Normal audio REC frequency response adjustment

The 8 kHz, -20 dB signal is recorded and played back to adjust its PB level so as to meet the specifications (-20 dB to the reference level).

① The CPU enters the set in the REC mode.
② The CPU outputs the 8 kHz, 0 dB signal from the PWM output terminal.
③ The CPU changes the signal level to -20 dB with the external 20 dB attenuator.
④ Controlling the VCA for bias level adjustment, the CPU decreases the REC bias level by 0.5 dB every 2 seconds in 13 steps (±3.0 dB to the theoretical value).
At that time, the CPU utilizes the value indicated by the tape counter for changing the bias level.
⑤ The CPU finalizes the bias level according to the value of the tape counter as the playback signal level meets the specifications.

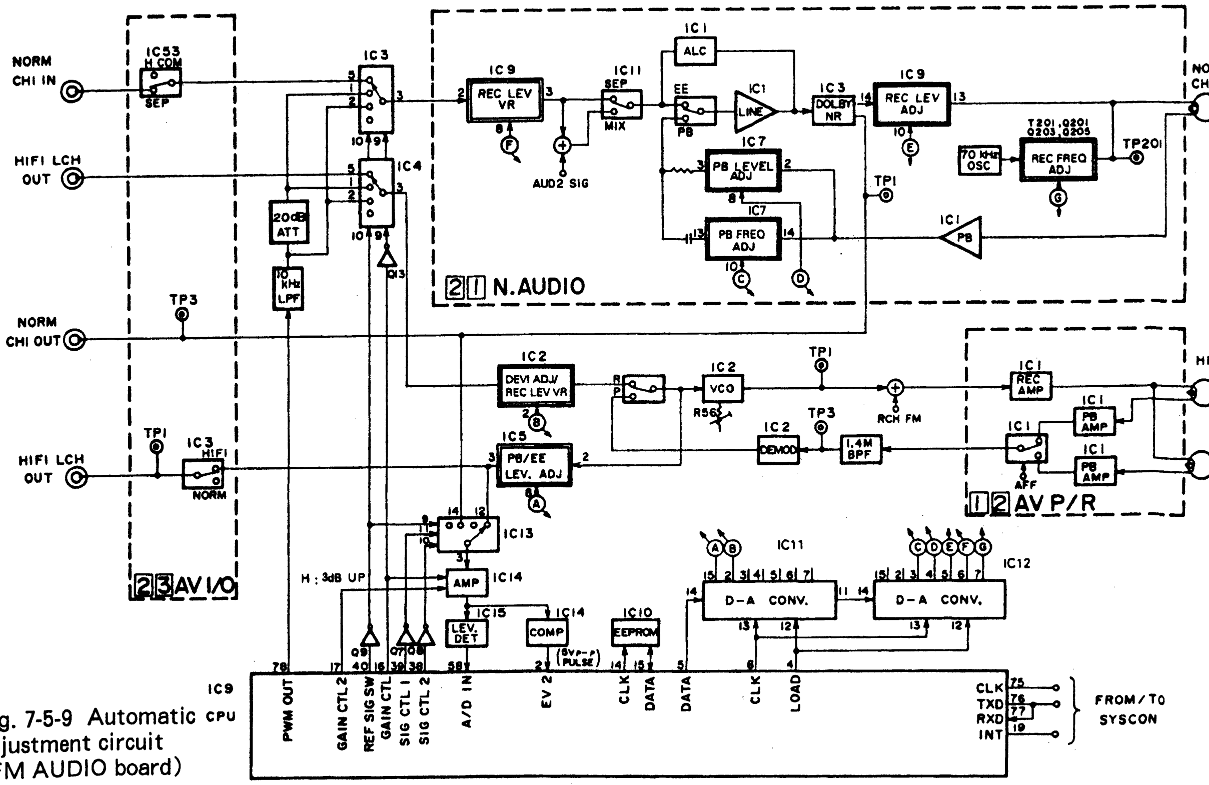

NORM CH1 IN
IC53 H.COM
SEP
HIFI LCH OUT
NORM CH1 OUT
TP3
TP1
IC3 HIFI
NORM
HIFI LCH OUT
23 AV I/O
IC3
IC4
20dB ATT
10 kHz LPF
Q13
IC9 REC LEV VR
AUD2 SIG
IC11 SEP
MIX
IC1 ALC
EE
PB
IC1 LINE
IC3 DOLBY NR
IC9 REC LEV ADJ
IC7 PB LEVEL ADJ
IC7 PB FREQ ADJ
TP1
IC1 PB
T201,Q201 Q203,Q205
70 kHz OSC
REC FREQ ADJ
TP201
NORM CH1 HEAD
21 N.AUDIO
IC2 DEVI ADJ/ REC LEV VR
IC5 PB/EE LEV. ADJ
R
P
IC2 VCO
R56
TP1
TP3
RCH FM
IC2 DEMOD
1.4M BPF
IC1 REC AMP
IC1 PB AMP
IC1
AFF
IC1 PB AMP
HIFI
CH1
CH2
12 AV P/R
IC13
H : 3dB UP
IC14 AMP
IC15 LEV. DET
IC14 COMP
IC10 EEPROM
(5Vp-p) (PULSE)
Q9
Q7
Q8
IC11 D-A CONV.
IC12 D-A CONV.
IC9 CPU
PWM OUT
GAIN CTL 2
REF SIG SW
GAIN CTL
SIG CTL 1
SIG CTL 2
A/D IN
EV 2
CLK
DATA
DATA
CLK
LOAD
CLK
TXD
RXD
INT
FROM/TO SYSCON

Fig. 7-5-9 Automatic adjustment circuit (FM AUDIO board)

No.	Adjustment mode	Adjustment part	Specifications	Operation mode	Remark
00 [00]	–	–	–	–	
01 [01]	–	–	–	–	
02 [02]	–	–	–	–	
03 [03]	Slow tracking preset	[TRACKING VR]	No noise	+1/30X speed	[IN/+SHIFT]: to start adjustment [AUTO MODE]: to memorize adj. data
04 [04]	FG duty ratio/Stop servo	Automatic	–	Without cassette inserted	[IN/+SHIFT]: to start adjustment
05 [05]	–	–	–	–	
06 [06]	–	–	–	–	
07 [07]	Reversing torque	[IN/+SHIFT]:UP [OUT/–SHIFT]:DOWN	176g-cm	–1×	
08 [08]	–	–	–	–	
09 [09]	–	–	–	–	
0A [0A]	Take-up torque	[IN/+SHIFT]:UP [OUT/–SHIFT]:DOWN	170g-cm	REC or PLAY	
0B [0b]	Loading torque	[IN/+SHIFT]:UP [OUT/–SHIFT]:DOWN	30g-cm	PLAY	Supply reel motor is controlled by loading torque.
0C [0C]	Play back tension	[IN/+SHIFT]:UP [OUT/–SHIFT]:DOWN	BR-S800:58g-cm BR-S500:63g-cm	REC or PLAY	
0D [0d]	–	–	–	–	
0E [0E]	–	–	–	–	
0F [0F]	Switching point	Automatic	–	PB of MHPE alignment tape	
10 [10]	–	–	–	–	
11 [11]	Audio EE level	BR-S800:[REC LEV VR]	–6dBs	EE	[COUNTER RESET]:to start adj. [AUTO MODE]:to memorize adj. data.
12 [12]	Audio PB level	BR-S800:[REC LEV VR] BR-S500:[TRC VR]	Normal : –9dBs HiFi : –6dBs	PB of MBAE/MH-F8 alignment tape	Adjustment order: Normal audio: [12], [13], [11], [14],[15] Hi-Fi audio: [12], [14], [11] after carrier frequency adj.
13 [13]	Normal audio PB frequency response	BR-S800:[REC LEV VR] BR-S500:[TRC VR]	8 kHz : Same level as ref.(400Hz) level.	PB of MH-8 alignment tape	
14 [14]	Audio REC level	BR-S800:[REC LEV VR]	–6dBs	REC/PLAY	REC system should be adjusted both in the VHS and S-VHS modes.
15 [15]	Normal audio REC frequency response	BR-S800:[REC LEV VR]	8 kHz : Same level as ref.(400Hz) level.	REC/PLAY	
16 [16]	Audio EEPROM preset mode	–	–	–	
17 [17]	Overall automatic adjustment of audio system	Automatic	–	–	For factory use
18 [18]	Normal audio PB level	Automatic	–	PB of MBAE alignment tape	
19 [19]	Normal audio PB frequency response	Automatic	–	PB of MH-8 alignment tape	
1A [1A]	Hi-Fi audio PB level	Automatic	–	PB of MH-F8 alignment tape	
1B [1b]	Normal audio REC level	Automatic	–	–	Should be adjusted both in the VHS and S-VHS modes.
1C [1C]	Normal audio REC frequency response	Automatic	–	–	Should be adjusted both in the VHS and S-VHS modes.
1D [1d]	Hi-Fi audio EE level	Automatic	–	–	
1E [1E]	Audio REC system automatic adjustment	Automatic	–	–	Should be adjusted both in the VHS and S-VHS modes.
1F [1F]	Loading/Unloading test mode	[IN/+SHIFT] : Loading [OUT/–SHIFT] : Unloading		Without cassette inserted	

Table 7-5-4 Table of adjustment modes

7.6 CTL TIME CODE

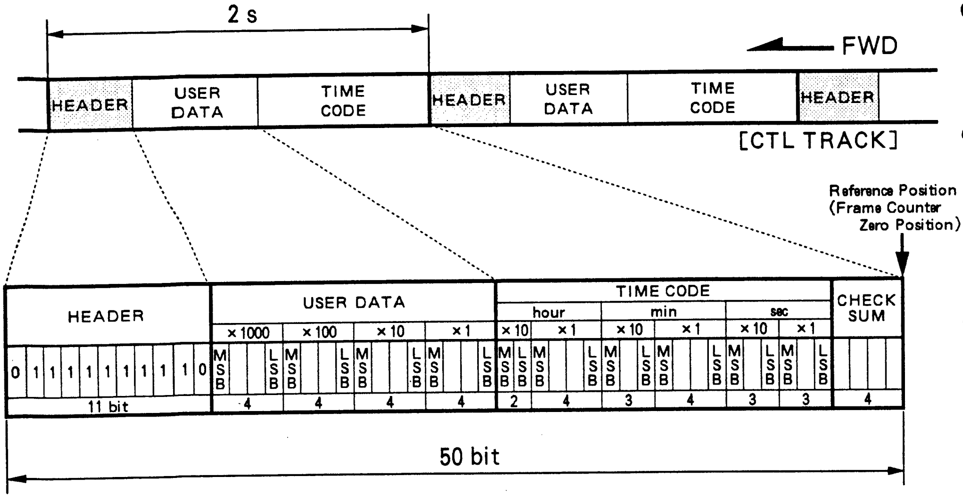

2 s
FWD
HEADER
USER DATA
TIME CODE
HEADER
USER DATA
TIME CODE
HEADER
[CTL TRACK]
Reference Position
(Frame Counter
Zero Position)
HEADER
USER DATA
×1000
×100
×10
×1
TIME CODE
hour
×10
×1
min
×10
×1
sec
×10
×1
CHECK SUM
0 1 1 1 1 1 1 1 1 1 0
MSB
LSB
11 bit
4
4
4
4
2
4
3
4
3
3
4
50 bit

Fig. 7-6-1 Construction of CTL time code

- **Check sum :**
  Lower four bits of a result of binary addition of total 10 digits that all digits of user data and those of time code data.
- **Digit in the 1st place of second indication:**
  Since CTL time code is written every 2 seconds, digits in the 1st place of seconds indication should be read as follows :
  0 = 0 sec, 1 = 2 sec, 2 = 4 sec,
  3 = 6 sec, 4 = 8 sec.
- **User data :**
  In the regeneration mode, user data is processed as same as other data recorded on the tape.

Note :If a user data contains any data having the same numeric string as that of the header portion, it is erroneously read out and causes malfunction.

7.7 HEADS ARRANGEMENT ON UPPER DRUM

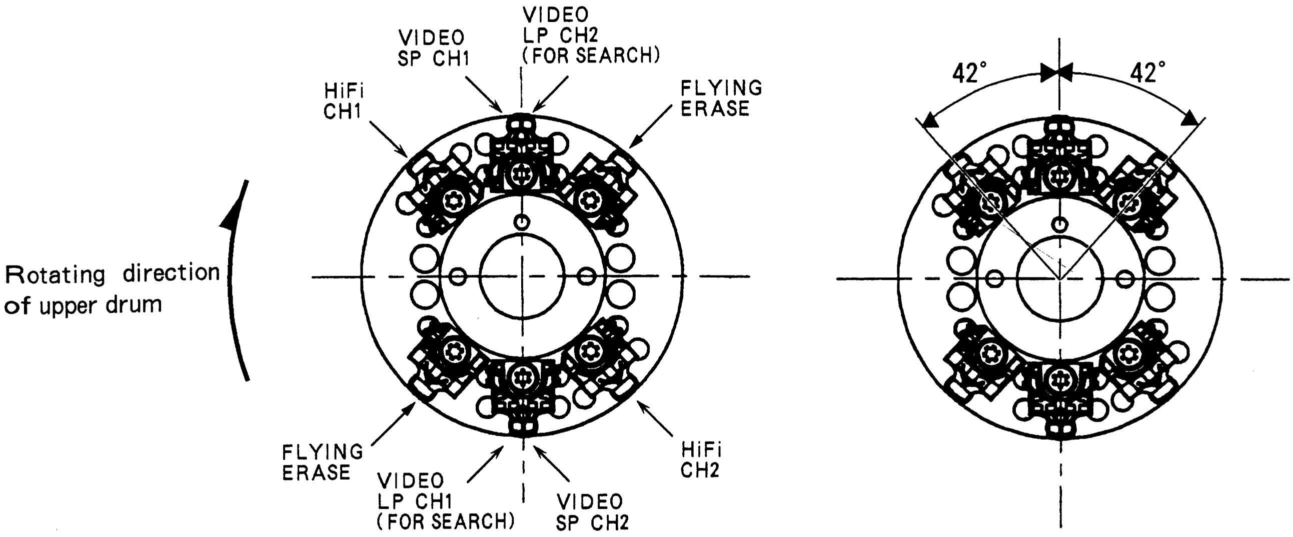

VIDEO SP CH1
VIDEO LP CH2 (FOR SEARCH)
HiFi CH1
FLYING ERASE
Rotating direction of upper drum
FLYING ERASE
VIDEO LP CH1 (FOR SEARCH)
VIDEO SP CH2
HiFi CH2
42°
42°

Fig. 7-7-1 BR-S800E heads arrengement

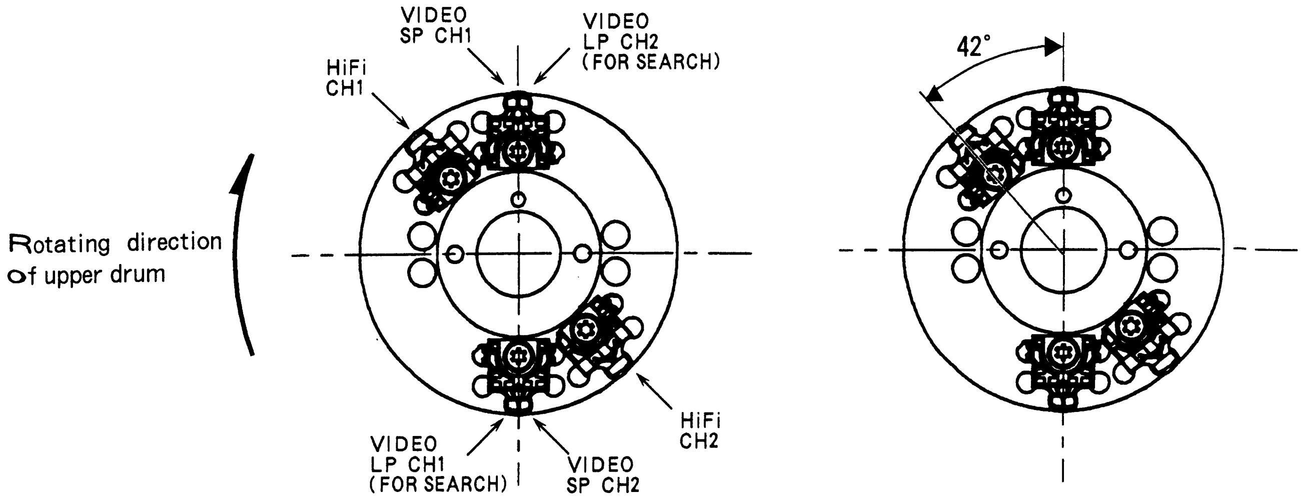

VIDEO SP CH1
VIDEO LP CH2 (FOR SEARCH)
HiFi CH1
Rotating direction of upper drum
VIDEO LP CH1 (FOR SEARCH)
VIDEO SP CH2
HiFi CH2
42°

Fig. 7-7-2 BR-S500E heads arrengement